BEFORE THE BOARD OF ENVIRONMENTAL REVIEW
OF THE STATE OF MONTANA

In the matter of the amendment of ARM 17.8.740 and 17.8.767 pertaining to definitions and incorporation by reference, and the adoption of New Rules I and II pertaining to mercury emission standards and mercury emission credit allocations	))))))	NOTICE OF AMENDMENT AND ADOPTION (AIR QUALITY)

TO: All Concerned Persons

1. On May 4, 2006, the Board of Environmental Review published MAR Notice No. 17-246 regarding a notice of public hearing on the proposed amendment and adoption of the above-stated rules at page 1112, 2006 Montana Administrative Register, issue number 9.

2. The board has amended ARM 17.8.740 and 17.8.767 and adopted new rules I (17.8.721) and II (17.8.722) as proposed, but with the following changes:

17.8.740 DEFINITIONS For the purposes of this subchapter:

(1) through (9) remain as proposed.

(10) "Maximum design heat input" has the meaning as defined in 40 CFR 60.4102.

(10) remains as proposed, but is renumbered (11).

~~(11)~~ (12) "Mercury-emitting generating unit" means any emitting unit at a facility for which an air quality permit is required pursuant to 75-2-211 or 75-2-217, MCA, that generates electricity and combusts coal, coal refuse, or a synthetic gas derived from coal ~~in an amount greater than 10% of its total heat input, calculated on a rolling 12-month time period,~~ and that is ~~subject to 40 CFR 60, subpart HHHH~~ defined as an electrical generating unit under 40 CFR 60.24.

(13) "Mercury-emitting generating unit that combusts lignite" means any mercury-emitting generating unit that combusts lignite in an amount equal to or greater than 75% of its total heat input, calculated for the prior calendar year on a calendar year basis.

(12) through (19)(b) remain as proposed, but are renumbered (14) through (21)(b).

17.8.767 INCORPORATION BY REFERENCE (1) For the purposes of this subchapter, the board hereby adopts and incorporates by reference:

(a) through (c) remain the same.

(d) 40 CFR Part 60, specifying standards of performance for new stationary sources, except for ~~40 CFR 60.4101-4176, subpart HHHH, Emission Guidelines and Compliance Times for Coal-fired Electric Steam Generating Units~~ 40 CFR 60.4141-4142;

~~(e) 40 CFR 60.4101-4176, subpart HHHH, Emission Guidelines and Compliance Times for Coal-fired Electric Steam Generating Units, except for 40 CFR 60.4141-4142, until December 31, 2014. The adoption and incorporation by reference of 40 CFR Part 60, subpart HHHH, is not effective after December 31, 2014.~~

(f) remains as proposed, but is renumbered (e).

~~(g)~~ (f) Tables 4-1 and 4-3 of the Department of Environmental Quality Air Quality Health Risk Assessment Procedures/Model, January 1995; ~~and~~

~~(h)~~ (g) 42 USC 7412, et seq., listing hazardous air pollutants~~.~~; and

(h) 40 CFR Part 75, pertaining to mercury requirements.

(2) through (4) remain as proposed.

17.8.771 MERCURY EMISSION STANDARDS FOR MERCURY-EMITTING GENERATING UNITS (1) Except as provided in (3) ~~through (7)~~, the owner or operator of a mercury-emitting generating unit shall:

(a) if obtaining a Montana air quality permit pursuant to ARM 17.8.743, install best available control technology for control of mercury emissions as required by ARM 17.8.752;

~~(a)~~ (b) except for any period for which another mercury emissions limit has been established pursuant to this rule, beginning January 1, 2010, or ~~when~~ at commencement of commercial operation ~~has begun~~, whichever is later, limit mercury emissions from the mercury-emitting generating unit to an emission rate equal to or less than:

(i) 1.5 pounds of mercury per trillion Btu, calculated as a rolling 12-month average, for mercury-emitting generating units that combust lignite; or

(ii) 0.9 pounds of mercury per trillion Btu, calculated as a rolling 12-month average, for all other mercury-emitting generating units;

~~(b)~~ (c) by January 1, 2009, or 12-months prior to commencement of commercial operation, whichever is later, ~~for a facility for which the department has issued a Montana air quality permit,~~ submit an application to the department for a Montana air quality permit or modification of ~~the~~ an existing Montana air quality permit for the ~~facility pursuant to 75-2-211 or 75-2-217, MCA,~~ mercury-emitting generating unit solely to establish the mercury emission limit from (1)~~(a)~~(b) and any necessary operational requirements as a condition of the permit. ~~and provide an analysis with respect to the facility's mercury control plan by January 1, 2009, or 12 months prior to beginning commercial operation, whichever is later;~~ The owner or operator shall include in the application an analysis of potential mercury control options including, but not limited to, boiler technology, mercury emission control technology, and any other mercury control practices. The owner or operator shall also include in the application a proposed mercury emission control strategy projected to achieve compliance with the emission limit in (1)(b) and that must include boiler technology, mercury emission control technology, or any other mercury control practices used or anticipated to be used by the owner or operator to achieve compliance with (1)(b). If the department determines that the mercury emission control strategy is projected to achieve compliance with the emission limit in (1)(b), the department shall include the provisions of the mercury control strategy as conditions of the Montana air quality permit; and

~~(c)~~ (d) by January 1, 2010, or ~~when~~ at commencement of commercial operation ~~has begun~~, whichever is later, ~~operate equipment that is projected, as determined by the department, to meet the standard in (1)(a)~~ implement the mercury emission control strategy approved pursuant to (1)(c).

(2) If more than one mercury-emitting generating unit is located at a facility, the owner or operator may demonstrate compliance with the requirements of (1)(b), an alternative emission limit, or a revised alternative emission limit on a facility-wide basis. An owner or operator choosing to demonstrate compliance with this rule on a facility-wide basis shall report the information required in (10) on a facility-wide basis.

~~(2)~~ (3) If the owner or operator of a mercury-emitting generating unit properly ~~installs and operates~~ implements the mercury control ~~technology or boiler technology, or follows practices projected to meet the mercury standard in (1)(a),~~ strategy approved pursuant to (1)(c), and the mercury control ~~technology, boiler technology, or practices fail~~ strategy fails under normal operation to meet the emission rate required in (1)~~(a)~~(b), the owner or operator:

(a) shall notify the department of the failure to meet the emission rate required in (1)(b) by ~~April 1~~ March 1, 2011, or within ~~15~~ two months ~~after commercial operation has begun~~ of such failure, whichever is later; and

(b) may ~~file~~ submit an application ~~with~~ to the department for a Montana air quality permit or ~~permit~~ a modification ~~pursuant to 75-2-211, MCA,~~ of a Montana air quality permit solely to establish an alternative mercury emission limit. The ~~application must be filed~~ owner or operator shall file any application for an alternative emission limit by July 1, 2011, or within ~~18~~ six months ~~after commercial operation has begun, whichever is later, and must include all~~ of the failure to meet the emission rate required in (1)(b), whichever is later, and shall include as part of the application:

(i) all mercury emission monitoring data, obtained pursuant to ~~(9)~~ (10), for the mercury-emitting generating unit~~.~~;

(ii) a description of the reason(s) for the failure and any corrective action that may be appropriate;

(iii) a certification that the failure occurred during normal operation of the facility and was not caused entirely or in part by start-up, shakedown, or improper implementation of the mercury control strategy approved pursuant to (1)(c); and

(iv) a revised mercury control strategy demonstrating how compliance with (1)(b) is projected to be achieved as soon as reasonably practicable but no later than 2018. The revised mercury control strategy may include, but is not limited to, boiler technology, mercury emission control technology, and any other mercury control practices used or anticipated to be used by the owner or operator to achieve compliance with (1)(b). The revised mercury control strategy must include measurable indicators of progress toward compliance with the emission limit in (1)(b), which may include a plan of increasing levels of mercury control progressing to compliance with (1)(b);

(c) If an application is submitted in accordance with (3)(b), the failure of the owner or operator of the mercury-emitting generating unit to comply with the mercury emission limit in (1)(b) is not a violation of this rule or the permit until the department has issued its final decision on the application.

~~(3)~~ (4) ~~The department may establish an alternative mercury emission limit only if the owner or operator applies for, or has applied for, a permit under 75-2-211, MCA, that requires boiler technology, mercury-specific control technology, or practices that the department determines constitute a continual program of mercury control~~ If the information submitted pursuant to (3)(b) demonstrates that the owner or operator of the mercury-emitting unit cannot reasonably comply with the mercury emission limit in (1)(b), the department may establish an alternative mercury emission limit. The department may establish an alternative mercury emission limit only if the owner or operator of the mercury-emitting unit demonstrates that the revised mercury control strategy constitutes a continual program of mercury control progression able to achieve the mercury emission rate requirement of (1)~~(a)~~(b) . ~~The department may not establish an alternative mercury emission limit that would cause an exceedance, after December 31, 2014, of the state of Montana's electrical generating unit mercury budget established by EPA.~~ If the department establishes an alternative mercury emission limit, the department must include as a condition of the permit a requirement that the owner or operator of the mercury-emitting generating unit make reasonable efforts toward achieving the measurable indicators of progress contained in the revised mercury control strategy. Failure to make reasonable efforts toward achieving the measurable indicators of progress contained in the revised mercury control strategy is a violation of the permit. The department shall base any alternative mercury emission limit on the best level of emission control achieved or achievable by the revised mercury control strategy and shall consider the information submitted pursuant to (3) when establishing the alternative mercury emission limit.

~~(4)~~ (5) An alternative mercury emission limit established in a Montana air quality permit ~~issued pursuant to 75-2-211, MCA, expires four years after the date of the department's decision establishing the alternative mercury emission limit.~~ expires January 1, 2018, and must not exceed:

(a) 4.8 pounds of mercury per trillion Btu, calculated as a rolling 12-month average, for a mercury-emitting generating unit that combusts lignite and commenced commercial operation prior to October 1, 2006;

(b) 3.6 pounds of mercury per trillion Btu, calculated as a rolling 12-month average, for a mercury-emitting generating unit that combusts lignite and commenced commercial operation on or after October 1, 2006;

(c) 2.4 pounds of mercury per trillion Btu, calculated as a rolling 12-month average, for a mercury-emitting generating unit that does not combust lignite and commenced commercial operation prior to October 1, 2006; or

(d) 1.5 pounds of mercury per trillion Btu, calculated as a rolling 12-month average, for all other mercury-emitting generating units that do not combust lignite.

~~(5)~~ (6) The owner or operator of a mercury-emitting generating unit, for which the department has established an alternative mercury emission limit, ~~may file~~ shall, by January 1, 2014, submit an application ~~with~~ to the department for a Montana air quality permit or a modification of ~~the~~ a Montana air quality permit for the ~~facility, pursuant to 75-2-211, MCA,~~ mercury-emitting generating unit to establish a ~~new~~ revised alternative mercury emission limit. The owner or operator shall submit, as part of any application, the information required in (3)(b)(i) through (iv), a best available control technology analysis for the control of mercury emissions, a review

of the mercury-emitting generating unit's existing ~~must be filed with the department at least three months prior to expiration of the~~ alternative mercury emission limit, including associated mercury emission monitoring and operational data, and a revised mercury control strategy. ~~If such an application is filed, the failure of the owner or operator of the mercury-emitting generating unit to have a new alternative mercury emission limit for the unit prior to expiration of the existing alternative mercury emission limit is not a violation of this rule until the department takes final action on the permit application, except as otherwise stated in this rule.~~

~~(6)~~ (7) ~~For any application for a new alternative mercury emission limit under (5), the department shall review the mercury-emitting generating unit's existing alternative mercury emission limit and program of mercury control, associated data, and available mercury control technologies, and may establish the same, or a more stringent, alternative mercury emission limit, based upon data regarding the demonstrated control capabilities of the type of control technology or boiler technology installed and operated at the mercury-emitting generating unit, if the data supports the new alternative mercury emission limit. The department may not establish a less stringent alternative mercury emission limit pursuant to this section.~~ In reviewing an application submitted pursuant to (6), the department shall establish a revised alternative mercury emission limit in a Montana air quality permit that will become effective beginning January 1, 2018. A revised alternative mercury emission limit must meet the requirements of (4) or constitute best available control technology, whichever is more stringent, but must not exceed:

(a) 2.8 pounds of mercury per trillion Btu, calculated as a rolling 12-month average, for a mercury-emitting generating unit that combusts lignite; or

(b) 1.2 pounds of mercury per trillion Btu, calculated as a rolling 12-month average, for all other mercury-emitting generating units.

~~(7)~~ (8) ~~If an owner or operator has timely notified the department of failure to comply with (1)(a), files a complete application for an alternative mercury emission limit, and operates and maintains the mercury-emitting generating unit, including any associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing mercury emissions, the department may not initiate an enforcement action for violation of (1)(a) between the date when (1)(a) became applicable and the date of the department's decision on the application for an alternative emission limit, if the department establishes an alternative emission limit.~~ No later than 10 years after issuance of the permit containing the mercury emission limit, and every 10 years thereafter, the owner or operator of a mercury-emitting generating unit, for which the department has established a mercury emission limit under (1)(b) or (7), shall file an application with the department for a Montana air quality permit or a modification of a Montana air quality permit for the mercury-emitting generating unit to establish a revised mercury emission limit. The owner or operator shall submit, as part of the application, the information required in (3)(b)(i) through (iv), a best available control technology analysis for the control of mercury emissions, and a review of the mercury-emitting generating unit's existing alternative mercury emission limit and the mercury control strategy, including associated mercury emission monitoring and operational data. The department shall establish a revised mercury emission limit in a Montana air quality permit that meets

the requirements of (4) or constitutes best available control technology whichever is more stringent, but that must not exceed:

(a) 2.8 pounds of mercury per trillion Btu, calculated as a rolling 12-month average, for a mercury-emitting generating unit that combusts lignite; or

(b) 1.2 pounds of mercury per trillion Btu, calculated as a rolling 12-month average, for all other mercury-emitting generating units.

~~(8) If more than one mercury-emitting generating unit is located at a facility, the owner or operator may demonstrate compliance with the requirements of (1)(a) or an alternative emission limit on a facility-wide basis. An owner or operator choosing to demonstrate compliance with this rule on a facility-wide basis shall report the information required in (10) on a facility-wide basis.~~

(9) The owner or operator of a mercury-emitting generating unit shall ~~monitor compliance, pursuant to 40 CFR 60.48(a) through 60.52(a) and 40 CFR 75 subpart I, with the mercury emission standard applicable under this rule or any alternative emission limit.~~ comply with the monitoring, recordkeeping, and reporting provisions of 40 CFR Part 75. Any continuous emissions monitors used must be operated in compliance with 40 CFR Part 60, Appendix B.

(10) The owner or operator of any mercury-emitting generating unit shall report to the department within 60 days after the end of each calendar quarter, on forms as may be prescribed by the department:

(a) the monthly average mercury emission rate, for each month of the quarter; and

(b) the percentage of time the mercury emission monitoring method was operating during the quarter.

(11) If the federal Clean Air Mercury Rule (CAMR), adopted in 70 Fed. Reg. 28606 (May 18, 2005), is declared invalid by a court of competent jurisdiction, the provisions of 40 CFR Part 75 and Part 60, Appendix B, amended by CAMR, as they pertain to monitoring, recordkeeping, and reporting of mercury emissions, remain in effect as incorporated by reference in ARM 17.8.767(1).

17.8.772 MERCURY ALLOWANCE ALLOCATIONS UNDER CAP AND TRADE BUDGET (1) Except as provided in (4), the ~~The~~ department shall submit to EPA mercury allowance allocations as described below.

(a) For mercury-emitting generating units for which commercial operation commenced before ~~January 1, 2001~~ October 1, 2006, the department shall submit allowance allocations by ~~October 31~~ November 17, 2006, for the control period years of 2010, 2011, and 2012, and by October 31, 2009, and October 31 of each year thereafter for the fourth control period year after the year of the notification deadline in a format prescribed by EPA and in accordance with (2) and (3).

(b) For mercury-emitting generating units for which commercial operation ~~commenced~~ commences on or after ~~January 1, 2001,~~ October 1, 2006:

(i) ~~t~~The department shall submit mercury allowance allocations by October 31 of the control period year for which the mercury allowances are allocated.

(ii) Starting with the control period year of 2018, the department shall submit mercury allowance allocations by October 31 of the earliest control period year to be allocated under the schedule set forth in (1)(a) for which the owner(s) or operator(s)

of mercury-emitting generating units that have commenced construction, as defined in ARM 17.8.801, anticipate to be in commercial operation.

~~(c) If the department fails to submit to EPA the mercury allowance allocations in accordance with (1), the allocations of mercury allowances for the applicable control period are the same as for the control period that immediately precedes the applicable control period.~~

~~(2) The mercury allowance shall be calculated by multiplying the applicable numerical limitation below by the maximum (nameplate) heat input value (in MMBtu/hr) for a specific mercury emitting generating unit and multiplying that value by 8760 hours per year to determine an annual allocation value. The calculation result will be rounded to the next whole allowance as appropriate.~~

~~(a) Mercury allowances shall be allocated, pursuant to (1), to the owner or operator of a mercury-emitting generating unit on the following basis:~~

~~(i) For the owner or operator of a mercury-emitting generating unit for which commercial operation commenced before January 1, 2001, and that does not combust lignite, the mercury allocation shall be based on an emission rate equal to 2.4 pounds of mercury per trillion Btu. For the owner or operator of a mercury-emitting generating unit for which commercial operation commenced before January 1, 2001 that combusts lignite, the mercury allocation shall be based on an emission rate equal to 4.7 pounds of mercury per trillion Btu;~~

~~(ii) For the owner or operator of a mercury-emitting generating unit for which commercial operation did not commence before January 1, 2001, the mercury allocation shall be based on an emission rate equal to 1.5 pounds of mercury per trillion Btu as allocations are available, on a first-come, first-served basis, not to exceed the Montana mercury budget.~~

~~(b) Allocations for a particular control period are limited to those mercury-emitting generating units that were, or are anticipated to be, in commercial operation in the year for which the allocations are being made. Allocations for a partial year, or anticipated partial year, shall be prorated. The owner or operator of a mercury-emitting generating unit that did not operate, or that operated less than projected, must surrender excess allowances.~~

~~(c) Allocations may not exceed the Montana mercury budget.~~

~~(3) This rule is not effective after December 31, 2014.~~

(2) The department shall allocate mercury allowances to the owner or operator of a mercury-emitting generating unit holding a Montana air quality permit on the following basis:

(a) For each control period beginning in 2010 and ending in 2017, mercury allowance allocations for mercury-emitting generating units must be calculated as follows:

(i) 24.0 ounces (equivalent to 1.5 pounds) per Trillion BTU multiplied by the maximum design heat input per year, for each Montana mercury-emitting generating unit that combusts lignite; or

(i) 14.4 ounces (equivalent to 0.9 pounds) per Trillion BTU multiplied by the maximum design heat input per year, for each Montana mercury-emitting generating unit that does not combust lignite.

(b) For each control period beginning in 2018, mercury allowance allocations for mercury-emitting generating units must be based on an emission rate calculated

as follows: 4,768 (298 pound mercury budget in ounces) divided by the sum of the maximum design heat inputs per year in Trillion BTU for each Montana mercury-emitting generating unit in commercial operation for the previous calendar year or that has submitted a request for mercury allowances under (2)(c) for that control period year. The maximum design heat input per year for each Montana mercury-emitting generating unit must be calculated by multiplying the maximum design heat input in Trillion BTU per hour by 8,760 hours per year. The department shall determine maximum design heat input for each mercury-emitting generating unit based on information reported to it by the owner or operator of the mercury-emitting generating unit.

(c) The owner or operator of a mercury-emitting generating unit that commences commercial operation on or after October 1, 2006, may submit to the department a request to be allocated mercury allowances, starting with the later of the control period in 2010 or the first control period after the control period in which the mercury-emitting generating unit commences commercial operation. A mercury allowance allocation request must be submitted on or before July 1 of the first control period for which the mercury allowances are requested after the date on which the mercury-emitting generating unit commences commercial operation. If commercial operation is anticipated to commence in the control period year of 2018 or later, upon the commencement of construction, as defined in ARM 17.8.801, the mercury allowance allocation request must be submitted with a schedule for commencement of commercial operation.

(d) The department may not allocate mercury allowances in excess of the Montana mercury trading budget under 40 CFR §60.4140.

(e) Any allowances left unallocated by the department shall be placed into a general account for the State of Montana, as established under 40 CFR 60.4151.

(3) Allocations for a particular control period are limited to those mercury-emitting generating units that were, or are anticipated to be, in commercial operation in the year for which the allocations are being made. Mercury allowance allocations for a partial year, or anticipated partial year, must be prorated. If a request for allowance allocations is submitted upon commencement of construction, based on a schedule for commencement of commercial operation, as defined in ARM 17.8.801, and commercial operation is not commenced as planned, any unused allowances (based on the date upon which commercial operation commences) for that control period year (or prorated year) must be surrendered to the department. The owner or operator of a mercury emitting generating unit who submits a request for allowance allocation upon commencement of construction, based on a schedule for commencement of commercial operation, shall report to the department the actual date of commencement of commercial operation within 30 days after commencement of commercial operation.

(4) The Department is not required to submit mercury allowance allocations if the federal Clean Air Mercury Rule (CAMR), adopted in 70 Fed. Reg. 28606 (May 18, 2005), is invalidated by a court of competent jurisdiction.

3. The following comments were received and appear with the board's responses:

Response to Comments: Comments are divided into broad categories, and, when possible, are responded to as a group. Where a particular comment in a broad category warrants its own response, that particular comment is labeled with a number for the category and a letter for the particular comment that will correspond with the response at the end of the category.

No Hotspots/Local Deposition in Montana; Mercury Is A Global Problem

COMMENTS: Many commentors stated that reducing, or eliminating, mercury emissions from Montana power plants would have no impact on mercury deposition in the state.

COMMENTS: A commentor stated that U.S. Environmental Protection Agency (EPA) and Electric Power Research Institute (EPRI) models show that mercury deposition in Montana is virtually entirely due to mercury emissions from outside the U.S.

COMMENTS: A commentor stated that regulation of mercury from EGUs is unnecessary because electric utility generating units (EGUs) in Montana are such a small part of the global picture.

COMMENTS (1.a): A commentor stated that the board should make a careful policy decision on the proposed rules that leads to achievable goals and is not based on politics or emotions. There is a lot of public concern about mercury, but the science, particularly the science of cause and effect between mercury and emissions, mercury deposition, fish levels, and human exposure is still evolving.

COMMENTS: A commentor stated that reducing mercury emissions beyond the reductions of EPA's Clean Air Mercury Rule (CAMR) would have no appreciable impact in Montana. The winds in Montana annually carry several hundred tons of mercury across Montana from sources outside of Montana, and about six tons are annually deposited in Montana. Most of this is from sources outside the U.S., which would not be affected by Montana rules.

COMMENTS: A commentor stated that Montana is not an isolated ecosystem and that what goes on around Montana impacts quality of life in the state. Setting a mercury emissions standard that may render it impossible to construct the Highwood Generating Station would do little, if anything, to shield Montana from the presence of mercury in the environment.

COMMENTS: A commentor stated that mercury emissions and deposition in the U.S. have been decreasing for many years in the absence of attempts to reduce emissions from power plants and that there is no credible evidence that controlling emissions from power plants will impact global burdens or deposition of mercury.

COMMENTS: A commentor stated that entirely eliminating Montana power plant mercury emissions would result in virtually no change in the levels of mercury

deposition in Montana based on the comparison of mercury deposition scenarios resulting from various emission control strategies, including the existing condition, CAMR Phase I, CAMR Phase II, and total elimination of mercury emissions from all U.S. power plants.

COMMENTS: A commentor stated that, based on modeling conducted for CAMR, the average deposition rate in Montana is approximately 90% of the average deposition rate in the U.S. and that Montana is one of four states with the lowest average rate of mercury deposition. Montana also is one of five states with the lowest percentage of mercury estimated to come from emissions by EGUs.

COMMENTS: A commentor stated that Montana's EGUs account for less than 0.5% of Montana's total statewide mercury deposition and that an evaluation of the impact of the proposed rules on deposition in Montana shows that over 99% of the mercury deposition occurring in Montana without the proposed rules still would occur. Also, approximately 10 times more mercury is deposited within Montana than is currently released from Montana's coal-fired EGUs. Therefore, there will be no meaningful reduction of mercury deposition in Montana as a result of the proposed rules, and there will be no measurable net benefit to Montanans. This is because the mercury emitted by Montana's coal-fired EGUs is almost all (over 90%) elemental mercury, which is not deposited in Montana, and because most mercury deposition in Montana is the result of out of state mercury sources. Emissions of reactive gaseous mercury and particle-bound mercury deposit within a few days and, therefore, mostly, will be deposited within a few hundred miles downwind of the source. Particle-bound mercury emissions are not converted to other forms of mercury and will be removed from the ambient air by deposition.

COMMENTS: A commentor stated that, because roughly half of the mercury emitted globally is in the ionic form, it will be deposited near its source, while the remaining portion of mercury emissions (elemental and particulate) will become part of the global background. Once released into the air, elemental mercury vapor has an average lifetime of about one year. Approximately 98% of elemental mercury emitted by U.S. combustion sources is transported outside of Montana's borders.

COMMENTS: A commentor stated that the board has not been provided credible evidence supporting speculation that mercury emitted from power plants in Montana or anywhere else in the country will accumulate in hot spots of pollution. The board has not been provided evidence for the existence of hot spots or that there is a consensus definition of hot spots or that the existence of hot spots, should there be any, have anything to do with public health. If mercury hot spots are being created in the simple manner implied by advocacy groups seeking further regulation of power plant emissions, then those hot spots should be readily discernible in states that have greater mercury emissions. In turn, the bodies of water in those states should have more mercury contamination and the fish should show greater concentrations of methyl mercury in their flesh. But, that isn't the case. Fish in Ohio, the state with the third highest volume of mercury power plant emissions (7,109 lbs in 2002) have an average mercury content 12% lower than fish in

California, even though Ohio's power plant mercury emissions are 817 times greater than power plant mercury emissions in California.

COMMENTS: A commentor stated that there is no basis for concern that restrictions are needed to reduce higher localized concentrations of mercury deposition in a particular water body, resulting from EGUs in Montana. Based on the analysis of ENVIRON, taking into account the eastern location of EGUs in the state, atmospheric chemistry for emissions that are mostly elemental mercury, the prevailing wind patterns, and the modeling studies, hot spots are not a problem in Montana.

COMMENTS: A commentor stated that the results of the EPA-sponsored Steubenville, Ohio mercury deposition study released to-date match almost exactly the deposition predicted by EPA and EPRI models, thereby validating the models' results both for Steubenville and for the rest of the U.S., including Montana, which showed very little deposition.

COMMENTS (1.b): A commentor stated that attempts to reduce manmade mercury emissions in Montana or elsewhere will not measurably improve, or decrease risks to, public health.

COMMENTS: A commentor stated that there is no evidence that mercury concentrations in Montana's water bodies would change significantly as a result of the proposed rules.

COMMENTS (1.b): A commentor stated that there is no evidence of mercury causing health problems in Montana as a result of consuming fish from Montana or other U.S. water bodies.

COMMENTS (1.c): A commentor stated that virtually none of the mercury deposition in Montana comes from Montana power plants because the mercury emitted in Montana by power plants is almost entirely elemental mercury (greater than 90%), which plays little or no role in in-state deposition. Elemental mercury is very unreactive and tends not to dissolve in water, so it will travel around the globe instead of being deposited locally. Emissions of elemental mercury tend to remain in the atmosphere for about a year, meaning they can travel around the globe many times before being deposited far from the original sources.

COMMENTS: A commentor stated that, based on the results of mercury deposition modeling EPA conducted for CAMR, most of the elevated mercury deposition is occurring in the western part of the state and the least amount of deposition is occurring in the eastern part of the state, where the EGUs are located.

COMMENTS (1.d): A commentor stated that the board has not been provided any evidence that reducing mercury emissions will reduce mercury in fish in this country or anywhere else in the world.

RESPONSE TO COMMENTS IN "NO HOTSPOTS/LOCAL DEPOSITION IN MONTANA; MERCURY IS A GLOBAL PROBLEM" CATEGORY: The board does not dispute that emission levels do not directly equal local deposition levels. However, there is a growing body of evidence indicating that a portion of mercury emissions from an EGU can be deposited locally.

1.a. The board believes that it has been careful in making its decision, that the requirements in these rules are achievable, and that the board's decision is based on the record rather than on politics or emotions. The board agrees that the science of cause and effect between EGU mercury emissions and mercury deposition, levels of mercury in fish, and human exposure is still evolving. However, there is substantial evidence that EGU mercury emissions are deposited on land and in water, that some of this deposition may occur locally, that some of this deposition leads to higher levels of mercury in fish, and that higher levels of mercury in fish pose a threat to public health and to the environment, including fish and wildlife.

1.b The board agrees with EPA's finding that a clear link exists between mercury deposition from anthropogenic sources and waterbody contamination. Whether or not a specific causal link has been established by studies in Montana, EPA has concluded public health is adversely affected by mercury ingestion, particularly when humans consume fish from mercury-contaminated waterbodies. Also, there is evidence indicating that consumption of certain fish from Montana and other U.S. water bodies poses a risk to public health and the environment, due to mercury contamination. There are mercury advisories in Montana for consumption of certain fish statewide, and there are separate advisories for specific water bodies in Montana. There also are similar advisories in numerous other states in this country. The largest existing mercury emitting EGU in the state, the Colstrip facility, is located near the Crow and Northern Cheyenne Indian Reservations and the proposed Highwood Generating Station has the potential to impact the Rocky Boys Reservation. A commentor stated that walleye in Big Horn Reservoir, on the Crow Reservation, have the third highest concentration of mercury of any species of fish found in any reservoir nationwide, and commentors noted that some of the people on the reservations depend upon fish consumption. The board agrees that there is no evidence in the record linking consumption of fish with health problems in Montana. However, there is substantial evidence that consumption of fish contaminated with mercury poses a significant risk to public health and the environment in Montana, and these rules will reduce that risk.

1.c While studies have shown that much of the mercury emissions from EGUs deposited in Montana likely comes from emission sources outside Montana, there are no studies showing that none of the mercury emissions from EGUs in the state are deposited in Montana. Mercury released into the air as elemental, ionic, or particulate mercury and deposited into waterbodies undergoes a process of methlyation, i.e., microorganisms ingest mercury and metabolize it into a more toxic form called methyl mercury. While the precise actions of the biological processes that convert inorganic and elemental mercury into methyl mercury remain unclear, the conversion of elemental mercury to methyl mercury is not in dispute. So, there is

reason to believe that any elemental mercury that is deposited in the state into water bodies or that is deposited onto land and that is washed into water bodies may be converted into methyl mercury. Also, Montanans consume fish from water bodies outside of Montana either through purchasing fish that were caught outside Montana or by traveling to other parts of the country and world and consuming fish there. Mercury emissions from Montana EGUs pose a risk to public health and the environment both inside and outside of the state.

1.d The level of mercury contamination of fish in any waterbody is directly proportional to the total amount of mercury measured in the waterbody. One may infer that reduction of mercury in a waterbody has a linear relationship to the amount of contamination in fish, to the extent previous bioaccumulation is considered and discounted, and studies in other states support this inference. Reductions in mercury levels in fish in other states have followed regulatory reductions in mercury emissions from industrial sources in those states.

Mercury Is a Natural Substance

COMMENTS: Several commentors stated that mercury is a natural substance.

COMMENTS: A commentor stated that the board has not been provided with credible evidence supporting speculation that U.S. power plants account for more than one percent of global mercury emissions. Advocates for enhanced regulation of mercury emissions from power plants all ignore the contribution of natural sources of mercury to the atmosphere, notwithstanding the fact that natural sources make up between 50% and 66% of the planet's mercury pool.

COMMENTS: A commentor stated that, regarding protection of wildlife, etc., according to a National Park Service website, in Yellowstone National Park, the Norris and Mammoth thermal basins produce between 205 and 450 pounds of mercury per year.

RESPONSE TO COMMENTS IN "MERCURY IS A NATURAL SUBSTANCE" CATEGORY: The board does not dispute that there are natural sources of mercury. However, Dr. Mark Coen, a United States Geological Survey scientist, stated that an ice core study in Wyoming shows that human-caused sources of mercury account for 70% of mercury deposition over the past 100 years. Some of these anthropogenic sources of mercury, including EGUs in Montana, are, and will be, located close to human populations, and, in some cases, may be closer to human populations than the natural sources. As discussed in other portions of this notice, there is substantial evidence that local deposition of mercury emissions occurs so that mercury emissions from EGUs pose a risk to public health and the environment not only globally but also locally. Also, due to the high toxicity of mercury, the fact that there are natural sources of mercury may create a greater need to reduce anthropogenic sources as much as reasonably possible. Based upon the risk to public health and the environment posed by

anthropogenic sources of mercury emissions, EPA concluded, in 2000, that it was appropriate and necessary for every state in this country to require new and modified EGUs to use maximum achievable control technology (MACT) to control mercury emissions, pursuant to Section 112 of the Federal Clean Air Act (FCAA). 65 Federal Register 79,825 (December 20, 2000). While EPA eventually adopted CAMR instead of a MACT standard, CAMR requires Montana to develop a mercury control plan for EGUs. Regardless of the origin of other mercury emissions, the board is required to regulate mercury emissions from EGUs.

Local Deposition and Hot Spots Are Issues That Should Be Addressed by the Rules

COMMENTS: Many commentors stated that local deposition and hot spots of mercury are issues and should be addressed by the rules. A commentor stated that cap-and-trade is based on the assumption that there is no significant local deposition of mercury from coal-fired power plants, however, recent research and case studies show that there are significant local and regional effects. According to Dr. Mark Coen, of the National Oceanic and Atmospheric Administration (NOAA), approximately 46% of mercury emissions from EGUs are reactive gaseous mercury, sometimes called ionic mercury, and particulate mercury. This is a nationwide average, not just in the Steubenville area. These are the emissions of concern for creating hot spots. Cohen modeled deposition of all the different species of mercury under a number of different assumptions and concluded from his modeling that "there can be large local and regional impacts from any given source." In the Steubenville study, they used modeling, starting with the emissions inventory and a knowledge of air chemistry and local meteorological data and local mercury deposition. Then you monitor deposition and the environment and statistically work backwards to identify the sources of that pollutant. They can now use tracer compounds in the mercury deposited to identify the source of the emissions. What they found in the first two years of data collection was that 75% of the mercury wet deposition at the Steubenville site is attributable to local and regional human sources, and two-thirds of the mercury deposited was from coal combustion.

COMMENTS: A commentor stated that walleye in Big Horn Reservoir, on the Crow reservation, have the third highest concentration of mercury of any species of fish found in any reservoir nationwide by EPA, which tests more than 200 reservoirs. This is a hot spot. We may not have hair samples from people in the southeast part of the state, but, based on the fish studies, we have a mercury problem. Humans absorb 94% to 95% of the methyl mercury in the fish they eat. Some of the people in my community eat fish as part of a subsistence diet, and they cannot afford to buy beef at the IGA. This is not something that is just optional; they cannot elect to just not eat fish for the next 15 years until we get the problem under control.

COMMENTS: A commentor stated that, in states that have reduced their mercury emissions, mercury levels in fish have dropped significantly. Local and regional control has resulted in local and regional declines in mercury concentrations. Seven years after Massachusetts enacted tough new restrictions on mercury emissions from incinerators, the mercury levels in yellow perch in eight

nearby lakes dropped an average of 32%. Farther away from these sources, there also were reductions, but only about half as much. In other words, reductions had even more of an impact locally. Statewide, the drop in mercury concentrations was an average of 15%. There was the same pattern for large-mouth bass; there were significant reductions closer to the sources of mercury emissions, but there also was a statewide drop. The Florida Department of Environmental Protection synthesized monitoring, research, and modeling approaches similar to the study at Steubenville, to address the problem of mercury contamination in Florida's fresh water ecosystems. Since the mid-1980s, mercury emissions from incinerators in south Florida have declined about 99% as a result of pollution prevention and control policies. This has been followed in the last seven years by a 60% decline in mercury in both fish and wildlife. Pennsylvania's Department of Environmental Protection found in an eight-year period that mercury levels were 47% higher in areas closer to coal-fired power plants.

COMMENTS: A commentor stated that Dr. Krabbenhoft, the project leader for the U.S. Geological Survey (USGS) national mercury project, has stated that an ice core study in Wyoming shows that human-caused sources of mercury account for 70% of mercury deposition over the past 100 years. This is a study in Wyoming, so Yellowstone has not been the major contributor. He also has stated that local mercury emissions do contribute substantially to the local problem and that he is certain that reducing mercury emissions will reduce the contamination of fish in U.S. watersheds. Dr. Krabbenhoft also referenced the Mercury Experiment to Assess Atmospheric Loading in Canada and the U.S. (METAALICUS). The study is a novel approach of tracking stable mercury isotopes through ecosystems. In this study, it was discovered that, from the time mercury is deposited on a lake to the point that methylation occurs and it enters the food chain, takes only about three weeks. So, if deposition to lakes is reduced, there will very quickly be a decrease in the level of mercury in the food chain.

COMMENTS: A commentor stated that EPA director Stephen Johnson, when questioned about the Steubenville study in January 2006, said that EPA did not have the results back in time for the CAMR rulemaking, but he challenged the states to consider the Steubenville study in rulemaking. So, the latest research and its implications for human health should be considered.

COMMENTS: A commentor stated that EPA research has proven that mercury is deposited locally and that, since the time EPA adopted CAMR, even more research has confirmed local deposition of mercury. The EPA Inspector General found that EPA's senior management had instructed staff to arrive at a predetermined conclusion favoring the utility industry when they prepared CAMR. The report also found that CAMR would not protect children's health. A Northern Wisconsin study found "modest changes in acid rain or mercury deposition can significantly affect mercury bioaccumulation over short time scales." A study found as follows that mercury emissions from the Chicago/Gary urban area contributed significantly to mercury levels in Lake Michigan: " . . . the spatial pattern of atmospheric mercury and meteorological cluster modeling results from the Lake

Michigan Mass Balance Study clearly indicate that sources in the Chicago/Gary urban area were contributing to enhanced Hg in precipitation and Hg (p) concentrations across the entire Lake Michigan area." While additional research is necessary to confirm that mercury emissions are causing downwind hotspots, until that research is funded and completed, the board should adopt rules that protect the public and wildlife.

RESPONSE TO COMMENTS IN "LOCAL DEPOSITION AND HOT SPOTS ARE ISSUES THAT SHOULD BE ADDRESSED BY THE RULES" CATEGORY: The board agrees that the possibility of local deposition of EGU mercury emissions and resulting hot spots of mercury should be addressed in this rulemaking. In its decision in 2000 to list EGUs under Section 112 of the FCAA, which then required EPA to promulgate a MACT standard, EPA stated that: "The EPA . . . recognizes and shares concerns about the local impacts of mercury emissions and any regulatory scheme for mercury that incorporates trading or other approaches that involve economic incentives must be constructed in a way that assures that communities near the sources of emissions are adequately protected." 65 Fed. Reg. 79,830. This rulemaking addresses the risk posed by local deposition and hot spots of mercury by requiring each EGU to install and operate a mercury control strategy. Because emissions from each EGU are addressed and required to be controlled under the rules, any local deposition and possible hotspots would be minimized.

Studies on Local Impacts Needed

COMMENTS: A couple of commentors stated that studies should be conducted to quantify local impacts of mercury on human and fish populations. A commentor stated that the department should conduct such a study, and another commentor stated that the board should direct the department and the Department of Public Health and Human Services (DPHHS) to initiate a study of mercury levels in Montanans and how these levels relate to distances from power plants in Montana. A commentor stated that studies of the mercury levels in pregnant women and their offspring should be conducted at Colstrip.

RESPONSE TO COMMENTS: The department is working with the Department of Public Health and Human Services to determine the scope and feasibility of a study to quantify local impacts of mercury. The board will be advised as progress is made.

Health and Environmental Impacts of Mercury Emissions

COMMENTS: Several commentors stated that the board has not been provided any credible evidence of adverse human health impacts caused by mercury emissions.

COMMENTS: A commentor stated that the board has not been provided any credible evidence supporting speculation that any women, children, or fetuses, have been harmed or have been placed at increased risk of harm as a result of

consumption of fish obtained from bodies of water in Montana or other parts of the U.S. For example, advocates of regulation of mercury emissions from utilities cite a link between autism and mercury emissions. If there was, in fact, a causal relationship between mercury emissions and autism, then that relationship should exist throughout the U.S., but it doesn't. Montana is a perfect example. The number of children classified as autistic in Montana increased from 20 in 1992 to 341 by December 2005, a 1,600% increase. But mercury emissions haven't changed significantly. Montana is a rural state with little industry and there is no doubt that coal-fired plants are the single largest source of manmade mercury emissions in the state. There has not been a new power plant built in the state since 1983; and, with some year-to-year fluctuations, overall mercury emissions have remained relatively steady. Montana's coal-fired power plants lie in the eastern third of the state but the highest rates of autism are found in Ravalli, Missoula, and Flathead counties, in far western Montana and clearly upwind of Montana's major manmade mercury sources.

COMMENTS: A commentor stated that the recent increase in the number of fish advisories in the U.S. is due to an increase in the number of mercury measurements in fish rather than an increase in levels of mercury in fish or in the environment. Increased fish consumption by pregnant women and young children clearly has been associated with improved intelligence and higher mental development scores in children, and increased fish consumption by adults has been associated with a slower cognitive decline. The majority of the Japanese population has mercury levels well in excess of that which is recommended currently by EPA. Also, the blood mercury levels in U.S. women of childbearing age have been shown consistently to fall orders of magnitude below levels considered to be associated with known health effects.

COMMENTS (5.a): A commentor stated that the mercury form of concern is methyl-mercury, which is ingested by humans almost exclusively by eating fish. In contrast, the form of mercury emitted by coal-fired power plants is primarily elemental mercury with some in an oxidized state. People breathe in elemental mercury every day; it is omnipresent in the atmosphere but is present in such low concentrations that it has no adverse effect. Also, it has not been shown that human beings are capable of converting elemental mercury into appreciable amounts of methyl mercury within their bodies. Mercury is not appreciably absorbed through the skin, nor is it found in the atmosphere in sufficient quantities to make inhalation of the substance problematic, even downwind of coal-fired EGUs.

COMMENTS: A commentor stated that the board has not been provided valid, reliable, and generally accepted evidence supporting the speculation that burdens of mercury have increased in the past decade, the past century, or even the past millennium, in fish, in human beings, or in the total environment of Montana, of the United States, or even of the world. Studies of fish and mummies indicate that, if anything, mercury levels either are stable or declining in both fish and human beings.

COMMENTS: Many commentors stated that power plant mercury emissions are harmful to public health and the environment. A commentor stated that mercury contamination not only exacts a high toll on public health, it also impacts the economy. The Harvard Study, published by the Northeast States for Coordinated Air Use Management (NESCAUM), found that strong mercury controls on coal-fired power plants, similar to those originally suggested by EPA, could save nearly $5 billion annually through reduced neurological and cardiac harm. Also, the costs of lost productivity associated with loss of IQ from methyl mercury exposure to children amounts to $8.7 billion annually. Of this total, $1.3 billion each year is attributable to mercury emissions from U.S. power plants. Mercury from U.S. power plants also accounts for 231 cases of excess mental retardation per year, at a cost of $289 million. Toxic injury to the fetal brain caused by mercury emitted from coal-fired power plants exacts a significant human and economic toll on American children. It can cost about $3.2 million to care for an autistic person over his or her lifetime. Caring for all people with autism over their lifetime costs an estimated $35 billion per year in the U.S.

COMMENTS: A commentor stated that there seems to be a high incidence of birth abnormalities in southeastern Montana. The board should seriously consider the possibility that they are being caused by mercury emissions from Colstrip and should substantially eliminate mercury emissions.

COMMENTS: A commentor stated that mercury is a poison and that one teaspoon of mercury will pollute a 1,000-acre body of water so that the fish are inedible. The rules should require the fossil fuel industry to get in step with the other industries that have removed mercury for years. Montana should be a leader and set an example in the field of mercury standards for our nation, for the world, and, more importantly, for our own Montana citizens.

COMMENTS: A commentor stated that the people of Montana depend upon the judgment and wisdom of the board to protect their health. The board has an opportunity not only to set policy, but to set a precedent that would help other states set policy and allow the U.S. to recapture its role as a leader in the area of human health.

COMMENTS (5.b): A commentor stated that we are leaving our children with a terrible burden -- the burden of environmental toxins, including mercury, which need to be sequestered and placed somewhere where they are not going to continue to be a poison for humans. Mercury has been linked to attention deficit disorder, hyperactivity, learning disabilities, developmental delays, behavioral problems, and autism, and we have to limit the amount of mercury in our biosphere. Years from now, boards such as this board are going to be trying to figure out how to sequester all of these tons of mercury in our environment, and it makes no sense to add to it.

COMMENTS: A commentor stated that PPL should be forced to reduce its mercury emissions as soon as possible because somebody is being poisoned as a

result of what they are doing. Eight hundred pounds a year of mercury from PPL is not acceptable.

COMMENTS: A commentor stated that mercury is a potent neurotoxin that harms people and wildlife. It can damage the brain and nervous system. It is especially harmful to children and developing fetuses. Six to 15% of women of childbearing age may be exposed to mercury above a safe level, and there is more data coming out now about the correlation between heart attacks in men and mercury exposure.

COMMENTS: A commentor stated that 45 states have issued fish consumption advisories for mercury, and that the concentrations and deposition levels are similar in both the east and the west.

COMMENTS: A commentor stated that the board should adopt strong and predictable emission standards and should not adopt the proposed cap-and-trade provisions. Montana has 420,000 acres of impaired lakes, 1300 miles of impaired streams, and statewide fish advisories for northern pike, lake trout, and walleye. There are additional concerns for aquatic mammals, such as mink and otter. Birds affected by mercury include ducks, geese, and swans, all of which are eaten. Pheasants, grouse, and Hungarian partridge all bio-accumulate mercury and also are eaten. Also, there are birds that are not eaten but that are our “canary in the coal mine” that tell us how our environment is doing, and those include birds such as loons, wading birds, herons, egrets, pelicans, cormorants, gulls, terns, hawks, eagles, and owls. Mercury poisoning of wildlife is insidious; there are no big die-offs, so it is not noticed like impacts to people. There is abnormal egg-laying behavior, impaired reproduction, slow growth of young, tremors, and weakness. Most of the existing problems with mercury in Montana probably are due to historic mining, as well as some natural mercury, but the point is that Montana's wildlife has a mercury problem right now, and we shouldn’t aggravate that problem. A recent EPA study in Ohio found that 70% of the mercury was from nearby coal-burning power plants, meaning that coal plants pollute local landscapes. We do not want to create hot spots in Montana and problems for wildlife. Montana should have a clean environment, and the board should adopt the strongest possible rules.

COMMENTS: The Chippewa-Cree Tribe commented that it opposes the coal-fired power plant to be located near Great Falls, due to health concerns for the residents of the Rocky Boys Reservation. The wind blows northeast 92% of the time, so that the reservation would be downwind of the proposed power plant from which mercury will be emitted into the air, fall back to the earth in rain and snow, and accumulate in microorganisms that live in the water and plants eaten by livestock and wild game. There are many streams and dams on the reservation that many of the residents of the reservation fish and hunt for wild game on a regular basis for consumption, and the effects of mercury on men, women, and children are highly documented.

COMMENTS: The Montana Public Health Association (MPHA) commented that the board should protect the public health of the most vulnerable Montanans, infants and children, by requiring coal-fired power plants to control mercury emissions, with no cap-and-trade. Mercury pollution is a major public health issue. Mercury poisoning has become the lead poisoning of yesteryears. Mercury emissions include extremely toxic substances that, in minute amounts, can chemically contaminate infants' and children's brains. The exposure of a developing child to mercury may well translate into lifelong impacts on brain function. EPA has stated that one in six women of childbearing age have mercury levels that are toxic to the developing fetus. In Montana, this means that as many as 1,822 babies of the 11,045 born each year are at risk for developmental problems due to mercury exposure while in the womb. This will negatively affect our children's educational achievement, economic performance, and income. If only 10% of these 1,822 babies born each year need special education, at a cost of an average of $5,900 per year, the cost for Montana would be $12,900,000 per year, according to one estimate. The Center for Children's Health and the Environment at the Mt. Sinai School of Medicine concluded that exposure to mercury causes lifelong loss of intelligence in hundreds of American babies born each year and that this loss of intelligence exacts a significant economic cost to American society; a cost that is estimated to be in the hundreds of millions of dollars each year. In a study conducted by the Northeast States for Coordinated Air Use Management, in collaboration with the Harvard School of Public Health, the participants quantified how decreasing mercury emissions from coal-fired power plants would result in less mercury exposure and, consequently, I.Q. point gains for the population of children born each year. According to this study, a 70% decrease in coal-fired power plant mercury emissions by 2018 would result in benefits to society of between $119 million and $288 million every year. There is an economic benefit to decreasing mercury emissions. A PPL representative says that the proposed plans to protect our infants and children from mercury emissions will hurt Montana power plants. Last year, four of these power plants netted over $1 billion. Installation of equipment to control mercury emissions from these plants is estimated to cost about $4 million. It is obvious PPL's interests are in corporate profits and not in the welfare of Montanans. The membership of MPHA is counting on the board to require Montana's coal-fired plants to control mercury emissions, with no cap-and- trade, and protect public health.

COMMENTS: A commentor stated that the National Education Association has stated that, to reduce the prevalence of mercury contamination as a factor in learning disabilities, we need to reduce mercury in fish and the only way to do this is to reduce the amount of mercury released into our environment. Because coal-fired power plants are our nation's biggest mercury emitters, we cannot solve this problem without reducing mercury emissions from these facilities. Our children and grandchildren are going to inherit our world. We should take precautions and not leave the poison. People need to take responsibility and clean up after themselves.

COMMENTS (5.c): A commentor stated that mercury is an extremely dangerous neurotoxin that can cause autism, ADD, cardiac disease, especially for

men, hearing impairment, and death. Because it is so dangerous to humans and animals, regulation should not be put off until a later date; it should begin immediately. The rules should be strict and provide for inspections, strong enforcement, and penalties for infractions and should not allow buying and selling of pollution credits. The technology exists to meet the standards. The expense is probably higher to start with, but, compared with the profits the companies have been making and the improved health of the state, this is a minor consideration.

COMMENTS: A commentor stated that, according to the United Nations Environmental Program, 70% of worldwide mercury emissions now are caused by human activity, and coal plants are the largest single source of manmade mercury contaminating our environment, accounting for about 48 tons of mercury in 1999, the last year it was measured. Coal plants are poisoning our planet and they need to be regulated. Mercury poisoning of fetal cells during embryological and fetal development, passed through from the mother, prevents normal neurological development, creating a lifelong deficit. The Harvard Center for Risk Analysis calculates between .5 and 1 point I.Q. loss per one part per million of mercury in the hair samples of women, which is why mercury is so devastating to children. The National Academy of Science has stated that neurological change to children exposed to mercury will result in increased numbers of children requiring special education and remedial classes and that mercury exposure may also continue in infants through contaminated breast milk. At the University of Texas, Dr. Claudia Miller reported a 17% increase in the rate of autism and a 43% increase in special education services for every thousand pounds of environmentally released mercury. Mercury also has an adverse impact on the immune system in people of all ages. At high concentrations, neurological damage can occur in people of all ages exposed to mercury. While there has been much discussion of methyl mercury from consumption of fish, mercury also is a toxin as a metal and as a salt, which is where the expression "mad as a hatter" comes from -- mercury salts used in the 1800s in making felt hats. If we fail to control mercury, we are going to have another syndrome in the 21st century, and it is going to be “mad as a mother.”

COMMENTS: A commentor stated that, in a Finnish study, 1871 men were followed over an average duration of 13.9 years. Through linear regression analysis and other complex, but well-accepted, mathematical and statistical methods, the study found that a person in the top third of hair mercury content was 1.7 times more likely to have cardiovascular disease, 1.6 times more likely to die of a heart attack, and 1.4 times more likely for all-cause death. This is not cause and effect; it is an association, but these numbers, 1.6 to 1.4, are high numbers for medical research. Regarding statements that there is no credible evidence, a certain cause and effect relationship cannot be established without exposing real people to mercury and determining the outcome, and this will not be done. However, the information about mercury toxicity is reminiscent of the path the medical community took concerning smoking 50 years ago, and we are losing 440,000 Americans per year from smoking.

COMMENTS: A commentor stated that the medical literature is full of studies of the potential impacts of mercury exposure, both prenatal exposure and effects in adults, particularly cardiovascular effects in men. From this body of data, it can be inferred that there are men, women, and children in Montana right now who are being affected by mercury exposure. Children are being affected simply because their mothers ate fish while they were pregnant, and these children are being born with an unnecessary disadvantage that will affect them throughout their lives. It is not correct that what the board does will not affect local impacts. For the board, what is relevant are Montana emissions, because that is what the board can work on today, and reducing emissions here in Montana will be effective in affecting public health. About 12 years ago, the Florida health department issued fish consumption advisories for the Everglades because the levels of mercury in fish were so high, and they banned certain types of fish. They made extensive efforts over the last 12 years to reduce local sources of mercury, particularly mercury from incinerators, and they reduced mercury emissions by 99%. When they retested the fish and wildlife, there were 60% and 70% lower levels of mercury in the tissues of those fish just 10 to 12 years after reducing emissions. So, local mercury emission control can lower the effects in fish and wildlife here in Montana. We cannot wait 12 to 15 years for these rules to take effect because, by that time, we could have an effect. We are already decades late in imposing rules to correct the problem that we have today.

COMMENTS: A commentor stated that toxins in the environment, including mercury, may be a trigger in developing autism in children. Autism used to be considered a rare disorder, affecting 1 in 15,000 children, then it increased to 1 in 5,000, 1 in 1,000, and, now, 1 in 166. So, the cause has to be something within our environment because we know it is not strictly genetic. A genetic predisposition may exist, but there is an environmental trigger that is causing these children to develop this lifelong developmental disability.

COMMENTS: A commentor stated that public health studies indicate that mercury and methylmercury are public health threats and that the data on the public health impacts of mercury is overwhelming. Eight percent of women in the U.S. have concentrations of mercury in their blood at concentrations higher than EPA considers safe, placing more than 600,000 newborns at risk each year. Mercury readily crosses the placenta and newborns have higher levels of mercury in their system than their mothers. Prenatal mercury exposure is correlated with lower scores in neurodevelopmental screening, especially for the linguistic pathway. A study of methylmercury poisoning in Iraq found that mercury readily passes from mother to fetus and later can pass to an infant through a mother’s milk. Some children demonstrated gross impairment of motor and mental development. The neurotoxic effects from exposure to mercury in the womb are irreversible. Mercury poisoning has led to hypertension in children. Fetal exposure to methylmercury is associated with cardiac abnormalities in children. Mercury interferes with development of the central nervous system, particularly in the prenatal stage. Chronic exposure to mercury can lead to visual impairments, hearing deficits, and motor and mental disturbances. The National Academy of Science concluded that the neurological damage to children exposed to consumption of fish contaminated

with mercury, during their mother's pregnancy, will result in an increase in the number of children who have to struggle to keep up in school and who might require remedial classes or special education. Mercury has profound, toxic effects upon the immune system as it inhibits most lymphocyte functions that are essential to a functioning immune system. Mercury has also been linked to an increase in allergic reactions.

COMMENTS: A commentor stated that the board should adopt the board's proposed rules, which are a good first step toward safeguarding our air from emissions from coal-fired power plants. The board rules would balance power generation with environmental protection and ensure safe development of the largest known coal reserves in the world. Montana must not be taken advantage of by allowing the pollution to stay here while the electricity moves out of state. More stringent standards than those of EPA would benefit the health of Montanans and the environment. The board should not accept the EPA standards, which science shows will harm us.

RESPONSE TO COMMENTS IN "HEALTH AND ENVIRONMENTAL IMPACTS OF MERCURY EMISSIONS" CATEGORY: The comments emphasizing the risks to public health and the environment posed by mercury are based on information and studies similar to the body of information cited by EPA in concluding in 2000 that it was appropriate and necessary to list EGUs under Section 112 of the FCAA, thereby requiring use of MACT by new and modified EGUs. In its final decision to promulgate CAMR instead of a MACT standard, EPA also relied on similar information related to the toxicity of mercury and the risk to public health and the environment. The board concurs with EPA that mercury is a hazardous air pollutant, that it is emitted from EGUs, and that these emissions need to be regulated to reduce the risks to public health and the environment. However, EPA's cap and trade rule, alone, would not sufficiently reduce mercury emissions in Montana. The rules being amended and adopted by the board would reduce mercury emissions from existing as well as new and modified EGUs, would require greater emission reductions in Montana than would be required under EPA's model cap and trade rule alone, and would reduce the potential for local deposition, thereby responding more appropriately to the risk to public health and the environment identified by EPA and by numerous commentors in this rulemaking proceeding.

5.a While people may breathe in low concentrations of elemental mercury every day, mercury may not be absorbed through the skin, and methylation may not occur within the human body, as discussed above, elemental mercury, like other forms of mercury, can be converted into methyl mercury through deposition into water bodies, including water bodies that contain fish that are consumed by other fish, wildlife, and humans.

5.b Mercury removed from EGU emission streams, pursuant to the rules being amended and adopted by the board, will be disposed of in a manner consistent with the continued protection of human health and the environment.

5.c The amendments and new rules adopted by the board in this proceeding will be effective the day after publication in the Montana Administrative Register. The emission limits and emission control requirements of the rules will not apply to an EGU until 2010, or upon commencement of commercial operation, whichever is later. However, the board's existing rules already require best available control technology for all new or modified facilities for which a Montana air quality permit is required. The 2010 date is intended to allow a reasonable time for facilities to develop and submit to the department for its approval specific additional mercury control strategies that may not be currently required for a new or modified facility under a BACT analysis or that are not currently required for existing facilities. Existing Montana statutes and rules provide for inspections of regulated facilities and provide civil and criminal penalties for noncompliance with air quality requirements. The new rules will allow emission credit trading, under which an owner or operator who does not hold sufficient allowances to operate will be allowed to purchase emission credits. However, the rules will not allow an owner or operator to use emission credits to exceed an applicable emission limit, thereby ensuring actual emission reductions in Montana and protecting against local deposition and hot spots.

For Adoption of CAMR and/or Emissions Trading

COMMENTS: Many commentors stated that CAMR will protect Montana, that the board should adopt a cap-and-trade program, that the board does not have evidence that the proposed rules would benefit public health or the environment, that the proposed rules would not change mercury deposition in Montana, and/or that the proposed rules would not have a measurable effect in Montana beyond the reductions achieved under CAMR.

COMMENTS: A commentor stated that EPA promulgated CAMR because every EGU cannot achieve the same emission reductions by 2014.

COMMENTS: A commentor stated that the U.S. contribution to global mercury emissions is about three percent, that one-third of those emissions come from U.S. power plants, and that U.S. power plants emit one percent of global mercury emissions. Under CAMR, mercury emissions will continue to drop significantly, and a full cap-and-trade program will ensure that U.S. mercury emissions continue to decline.

COMMENTS: A commentor stated that the rules should be based on science rather than emotion. On July 5, 2006, in Pediatric Magazine, McGill University released news of a study that dismissed the existence of a link between mercury-based immunizations and autism. It would be a mistake for the board to base its decision on a link that does not exist, and the board should adopt CAMR rather than the proposed rules.

COMMENTS: The board received two petitions to the governor, the department, and the board, signed by residents of Sidney and the Colstrip area, requesting that the board adopt CAMR and not adopt any further restrictions.

COMMENTS: A commentor stated that the board should not adopt rules more stringent than CAMR without published quantitative evidence that there would be a benefit from more stringent rules. It will take a huge effort for energy companies just to meet the requirements of CAMR, and it would be impossible for them to meet more stringent requirements.

COMMENTS: A commentor stated that 92% of mercury emissions in the U.S. comes from other countries, and only 1% comes from coal-fired power plants. Due to high natural gas prices and high costs for all energy, it makes sense to use coal to produce electricity. Montana has 120 billion tons of coal reserves, which is more than any other state. To allow use that coal, the board should adopt CAMR.

COMMENTS: A commentor stated that CAMR is appropriate for Montana and that the proposed rules will impose substantial additional costs to Montanans, in general, and to the Colstrip facility in particular.

COMMENTS: A commentor stated the federal government has taken the best available research to date and adopted stringent guidelines and an implementation schedule in CAMR, based on the best available information. Ongoing research is being conducted on mercury, as evidenced by the Department of Energy's (DOE's) June 2004 request for proposals for assistance in conducting research on mercury control and mercury measurements. We do not have all the answers yet. I currently have more mercury emissions in my body from the three fillings that I have in my head than OSHA standards allow. The tox facts website addresses the mercury exposure pathways, which include eating fish or shellfish contaminated with methyl mercury, breathing emissions from spills, incinerators, and industries that burn mercury-containing fuels, dental work, medical treatments, breathing contaminated workplace air, skin contact during use in the workplace, exposure to chemical industries and other industries that use mercury, as well as practicing rituals that include mercury. The Montana Department of Fish, Wildlife & Parks' 2000 Montana fish consumption advisory states that contaminant levels, primarily levels of mercury and PCBs, found in Montana's fish were low and are considered a hazard only if consumed very frequently. There have not been any known cases of illnesses from eating fish caught in Montana. Mercury is widespread in the environment and can be found in low concentrations in most soils and rocks. These naturally occurring deposits are the most probable cause for elevated levels of mercury in fish in Montana. If we are concerned about local deposition, then why are we not testing the people who have lived near, and worked at, a coal-powered generation facility, like the Colstrip facility, the last 20 years? Montana should not be among the 20% of the states with requirements that are more stringent than the federal regulations. We should be among the 80% of the states with requirements that are consistent with federal regulations. Montana needs the federal cap-and-trade program, and it is appropriate for Montana.

COMMENTS: A commentor stated that mercury problems are worldwide and are coming into Montana, whether we want them or not, and 1% of mercury emissions worldwide come from coal-fired power plants, making the amount of Montana emissions small. This amount becomes minute after reductions of 70% under CAMR. The difference between 70% and 90% reduction is not that great. The federal government went through a great number of studies to come up with its number, and I feel more comfortable with that than I do with the 90% control the board is proposing, because I do not know what is behind that number. We still are going to be subject to generation in surrounding states that will compete with Montana. We are not going to be competitive if we are at 90% and they are at 70%. We have a large amount of coal deposits, and we have great energy opportunities. We all want the coal developed, and we all want environmental conditions as good as possible. It is up to the board to come up with a middle ground so that we can have the development we need as well as the clean air, keep our kids at home, keep the jobs, and keep the wage scale high. Energy development speaks to all of that.

COMMENTS: A commentor stated that Montana, more and more, is being relegated by special interests to a playground status for a few privileged outsiders. Montana is being set up to export all of our resources, including our kids, to benefit either east coast or west coast economies or a world market. The board should adopt mercury rules based on science and guaranteed emission standards. Currently, many manufacturers are willing to guarantee 1.5 TBtu, and that should be the immediate standard until industry is capable of guaranteeing greater reductions.

COMMENTS: A commentor stated that rules beyond CAMR would be costly, difficult to implement, and would not result in a coordinated federal program.

COMMENTS (6.a): A member of the Montana legislature commented that the proposed rules were rejected during the 2005 legislative session and that the board should adopt CAMR. If additional requirements are needed, they should be introduced as legislation and discussed, debated and voted on by the legislators selected by the people to make these types of decisions.

COMMENTS: A commentor stated that the federal program has as its goal to allocate 298 lbs of mercury to Montana facilities by 2018, with the caveat of trading emissions. With a few caveats, the proposed rules attempt to achieve this same goal but are overly prescriptive. There does not appear to be a clear rationale justifying the complications of the proposed regulatory program or the uncertainties and substantial costs being imposed on the regulated community.

COMMENTS: A commentor stated that CAMR is the preferred approach to reducing mercury emissions, based on its emission limits, the timeframe within which to achieve those limits, and the flexibility of trading emission allowances should the limits be difficult to achieve.

COMMENTS: A commentor stated that unrestricted participation in the proposed national cap-and-trade program is necessary for the proposed rules to

work to 2018 and beyond. The emission standard for existing units that will be required by the Montana mercury budget is very low, and cannot be achieved using current technology. As a result, the state must provide EGUs with a compliance safety valve – the ability to fully participate in the national cap-and-trade program established by EPA in CAMR by purchasing mercury allowances on the national market to address the insufficiency of allowances available in Montana. Without the ability to purchase needed allowances on the national market, investors in new projects will not build in Montana.

COMMENTS: Great Northern Power Development, LP ("Great Northern") commented that it has spent over $6 million on the Nelson Creek Power Project and would like to be able to continue making a substantial investment in Montana through the development of this project. When Great Northern commenced planning and development for the project, there was no proposed mercury rule. As a result of the petition to the board to adopt a mercury rule, and subsequent board action, Great Northern has had to reconsider the economics of developing a power plant at the site. Without a cap-and-trade program, there are insufficient allowances allocated to Montana to allow construction of any new facilities either not currently permitted or in the permit process. If the proposed rules do not provide for a cap-and-trade program, the Great Northern Nelson Creek Power Project is dead, therefore, the board should provide for full participation in the federal cap-and trade-program.

COMMENTS: Montana-Dakota Utilities Company (MDU) commented that the board should adopt CAMR. The MDU Lewis and Clark station has a similar configuration to the Colstrip plant, with a wet particulate scrubber. Controlling such a facility is fairly difficult. Eighty percent control could be possible, but anything over that would involve a significant rebuild of the facility. Minnesota, which is a non-coal producing state, recently implemented an emissions control law that is more stringent than CAMR. However, that law requires a plant-specific technology selection and a review by the Public Utilities Commission to determine whether the costs are justifiable. Specific technology selection is important, and MDU is opposed to any firm limits. Firm limits can really put companies in a box; there needs to be a fallback position. An achievable technology selection process would be more justifiable. Neighboring coal-producing states, Wyoming and North Dakota, plan to adopt CAMR.

COMMENTS: PPL-Montana commented that, because of the uncertainties related to control technologies and what Colstrip can accomplish and the variability of mercury in the coal, trading would be required to ensure that PPL can meet the proposed limits, not only to 2018, but also beyond that date because of the very high level of control required and the unknowns in meeting that high percent removal. Trading would allow Colstrip to manage technology variables as Colstrip strives for compliance with the limits.

COMMENTS: A commentor stated that there is a long history of emissions trading providing environmental and economic gains. Experience over the past

decade has shown that a well-designed and well-implemented cap-and-trade program can achieve air emissions targets at lower costs than the traditional command and control approach. It provides an opportunity to achieve cheaper and more environmentally secure environmental regulations. It provides incentives for different kinds of facilities to, as a group, apply the least-cost way of achieving a different target. So the trading mechanism allows both buyers and sellers to gain. In some cases, they are sharing the gains in the trade and reducing the overall costs of meeting the program. The government does not have to determine which is the low-cost option and which is the high-cost option. All of the facilities have an incentive to understand what their costs are and to participate in the trading program.

COMMENTS: A commentor stated that mercury emissions are well-suited for a national emissions trading program because the information suggests that emissions are important over a broad area. That means that the emissions traded are equivalent in terms of environmental impact. Also, trading works where there are large differences in the cost of control. If there is not much difference in the cost of control, there is not much gain in trading. Most of the evidence about mercury suggests that there is a lot of difference in the cost of controlling mercury across different sources, so that the gains from trading would be substantial. Trading is a major advantage when there is a lot of uncertainty about costs. If a facility is not quite sure what the costs are, trading provides the flexibility to avoid a situation where the facility needs to meet a particular control requirement regardless of cost. If the cost turns out to be much more expensive, trading provides the option of purchasing allowances rather than engaging in something that is expensive. The price on allowances provides incentives for low-emission technologies. There is no incentive for a facility to go below its emission limit unless there is an emissions trading program.

COMMENTS: A commentor stated that, from an economic and environmental perspective, Montana would be better off if its plants are able to take advantage of emissions trading. Studies have shown that overall costs of a program are reduced by about 50% with emissions trading across sources and across time, with the possibility of banking, which results in additional cost savings. Trading also has spurred the development of new technologies, which is important for mercury. Full interstate trading, including provisions for buying and selling, is likely to result in significant cost savings in Montana, and banking provisions would result in earlier emission reductions. Requiring that pollution control investments be made in Montana would increase the cost without achieving any environmental benefit.

COMMENTS: A commentor stated that the problem with restricting trading to Montana is that, with a relatively small number of facilities to trade with, the cost-saving advantages of trading are not present. If every state did that, there would not be 40% to 50% cost savings, and the program would be much more expensive. Preventing facilities from taking advantage of lower cost control options outside the state would be a waste of money.

COMMENTS: A commentor stated that NERA's analysis suggests that it would be cost-effective for the Corette plant to reduce mercury emissions by approximately 75% from current levels if Corette is allowed to fully participate in the CAMR trading program, under the allowance price predicted by EPA. These reductions would be achieved by 2015, with approximately a 55% reduction relative to current levels in the period 2010 to 2015. Under the proposed Montana rules, a reduction of approximately 89% would be necessary. NERA's results show that this additional 14% reduction would cost approximately 66% more per pound than the first 75% of reduction achieved, with $18,000 per pound under the cap-and-trade program, compared to $30,000 per pound under the Montana rules. Not only are substantial reductions in Montana mercury emissions likely if interstate trading is allowed as under CAMR, but these reductions would be much less costly on average than the additional 14% required under the proposed Montana rules. Allowing interstate trading for the Corette facility would result in a significantly more cost-effective regulatory solution for mercury emissions in Montana.

COMMENTS: A commentor stated that, based on allowance price projections by EPA and information from URS Corporation on the cost of controls, the Colstrip facility is expected to make substantial mercury emission reductions under CAMR. In the early years of the program, it is expected to be the net seller of allowances. In the later years of the program, beginning in 2015, Colstrip is expected to be a net buyer of allowances. Under CAMR, emissions from Colstrip are projected to be reduced by about 73% from baseline levels in the early years of 2010 through 2014 and by about 77% in the later years, beginning in 2015. The proposed Montana rules would reduce emissions from Colstrip by about 10% more than under CAMR in the early years and by only about 6% in the later years. There would be no difference in national mercury emissions between the proposed Montana rules and the national cap-and-trade program because of the national cap. Cost savings at Colstrip from participating in interstate trading are expected to be high because interstate trading avoids the need to install very expensive controls to achieve the last few pounds of emission reductions beyond reductions achieved by more cost-effective technology. These last pounds require technology that is estimated to cost more than $100,000 per pound, in contrast to a projected allowance price of less than $50,000 per pound.

COMMENTS: A commentor stated that mercury control comes in a variety of different shapes and is rapidly developing. Tremendous progress has been made by a number of companies over the years, so it is a challenge for the board, as policymaker, to develop policy at the same time the technology is developing. Progress has been made, and a great deal of investment has been made in control technology, resulting in better performance and lower cost. It is regulations that drive investment and commercial competition for lower costs. Because of the Clean Air Interstate Rule (CAIR), there have been significant advances in technology so that we are likely to get much more mercury removed than initially anticipated. In a trading program, the credits will be readily available and relatively inexpensive because of improvements in the technology. Unfortunately, those improvements do not apply to western coals because the chemistry is not right.

COMMENTS: A commentor stated that the rules should not forestall future energy development in Montana, so at least a limited cap-and-trade component that allocates mercury allowances in an equitable manner to existing facilities and new development should be included as a safety valve. Any left over allowances that are not allocated should be available to new development on a first-come first-served basis, but, the department could not allocate allowances in excess of Montana's budget.

COMMENTS: A commentor stated that emission trading programs can encourage additional emission reductions and earlier compliance with emission standards. However, this happens only if the trading program is paired with an underlying regulatory structure that establishes appropriate emission limits. Without that underlying regulatory structure, emission trading programs only allow old, dirty plants to stay that way.

COMMENTS: A commentor stated that adopting the proposed rules would conflict with any Montana option for developing and implementing a Montana-specific mercury emission cap-and-trade program.

COMMENTS: A commentor stated that the feasibility of meeting the extremely stringent requirements of the rules has not been demonstrated and that it is not clear that the rules would provide any benefits beyond the reductions of CAMR. However, the costs of the Montana rules could be significant in terms of the lost potential for establishment of future coal-fired power generation within the state, which is likely to shift to other states that have adopted the technologically and economically feasible CAMR standards without additional constraints.

COMMENTS: A commentor stated that ENVIRON used EPA's Community Multi-Scale Air Quality (CMAQ) model to evaluate the impacts in Montana of reductions in mercury emissions from Montana's EGUs. Additionally, ENVIRON made the most conservative assumptions in preparing the model, including assuming that the Colstrip plant, which accounts for a large majority of mercury emissions in the state, would not make any reductions under CAMR but would, instead, purchase allowances as its sole means of compliance. As discussed in the National Economic Research Associates (NERA) report, based on projected allowance prices and control costs, it is expected that Colstrip ultimately will make substantial mercury reductions under CAMR, so that the impact of the additional restrictions in the Montana proposal would be substantially less than ENVIRON shows in its modeling. The results of ENVIRON's modeling show the proposed 90% capture mandate would achieve, at most, no more than a 0.25% reduction of total mass deposition across the state.

COMMENTS: A commentor stated that, if there are requirements for control technology and emission limits on all EGUs in addition to cap-and-trade, cap-and-trade would not detract from the protection offered by the emission limits.

COMMENTS: A commentor stated that the rules should not include banking but should include limited trading and coordinated multi-pollutant controls.

RESPONSE TO COMMENTS IN "FOR ADOPTION OF CAMR AND/OR EMISSIONS TRADING" CATEGORY: EPA's CAMR requires that each state, in which an EGU is located, and each tribe having regulatory authority over an EGU, must adopt a mercury control plan. CAMR does not require adoption of EPA's model cap and trade rule, but, rather, offers the model rule as an approvable option. The board has determined that, considering economic and technological feasibility, the most appropriate rule for Montana would include the federal cap and trade program but would also require all EGUs in Montana to control mercury emissions and to meet stringent emission limits. This approach provides the benefits of cap and trade, including incentives for EGUs to further reduce emissions and the ability to allow for future development, but avoids the negative aspects of EPA's model rule, including allowing dirty plants to stay dirty and providing a substantial allowance advantage to existing sources and penalizing new ones. EPA's model emission trading rule includes an allocation scheme under which 95% of mercury emission allowances would be allocated to existing EGUs from 2010 to 2017, and 97% would be allocated to existing EGUs in 2018 and beyond, leaving only 5% and 3%, respectively, of a state's allowances for new generation. The allocations in the final mercury rule allocate allowances at 0.9 lb/TBtu for non-lignite combustion and 1.5 lb/TBtu for lignite combustion regardless of existing or new status, allocated up to the 754 lb Montana allocation budget from 2010-2017. Starting in 2018, the 298 lb Montana allocation budget would be divided up by total maximum design heat input, which would also not discriminate between existing and new sources. The Montana allocation system is much more accommodating to new generation than the EPA model rule.

6.a That a bill that would have required mercury control failed before the Legislature is not material to the board's consideration of this rulemaking. The Legislature did not prohibit the board from initiating rulemaking in this matter, and, in fact, some members of the Legislature agreed to delay action to await the outcome of the federal rulemaking process. This rulemaking is in response to the mandate in CAMR for Montana to submit a mercury control plan. Pursuant to the Clean Air Act of Montana, the Legislature charged the board with promulgating rules to set emission limits for air pollutants, which includes hazardous air pollutants, and the Legislature required the board to conduct a public hearing and consider public comments, pursuant to the Montana Administrative Procedure Act, prior to adopting a rule to implement the act. The Legislature established this regulatory scheme because the board is presumed to possess particular knowledge, skills, and abilities attendant to assessing the impacts associated with environmental regulation and to provide for a public participation process in which proposed rules can be discussed, debated, and voted on by the board members, who have been selected particularly to make environmental regulation.

CAMR Does Not Preclude Adoption of More Stringent State Rules

COMMENTS: A commentor stated that CAMR does not require Montana to participate in the federal cap-and-trade program. Under CAMR, states may choose to not participate in the optional cap-and-trade program and obtain equivalent emission reductions from other means. Also, states may incorporate a mechanism to implement more stringent controls at the state level with their allowance allocation methodology. States also have the flexibility to not participate in the trading program or require more stringent mercury emission reductions. States that do not participate in the trading program can establish their own methodology for meeting state mercury budgets by obtaining reductions from affected utility units. Moreover, states remain authorized to require emission reductions beyond those required by the state budget, and nothing in CAMR precludes the states from requiring stricter controls and still being eligible to participate in the mercury emission trading program. Other states are implementing stricter standards than CAMR with and without the trading aspect.

RESPONSE TO COMMENTS: The board agrees with this general interpretation and has included in the final rules requirements for mercury emissions control in addition to a cap and trade program. The cap and trade program included in the final rules incorporates a different allocation scheme and timing schedule than is offered under EPA's model rule, but that is more appropriate given the overall mercury control plan finalized by the board.

Against CAMR and/or Emissions Trading

COMMENTS: Many commentors stated that emissions trading is not appropriate for toxic pollutants or neurotoxins, such as mercury.

COMMENTS: A commentor stated that cap-and-trade is a bad idea for something as hazardous as mercury, and it is almost a moral obligation to use the best available control technology. The public pays the cost of having mercury in our systems, and it is going to be the public that pays the cost of getting it out or reducing it, which is appropriate. We recognize that our resources are here and they should be wisely used. We understand the desire to have more independence in this country for our energy needs. But, the degree the public will accept more coal development in the state will hinge directly on the degree to which we believe our health and safety are being protected.

COMMENTS: A commentor stated that there is a moral and medical responsibility to be as diligent as humanly possible to put into effect rules that not only protect the citizens of Montana from the electric gluttony of our nation, but that ensure our neighbors do not suffer from shortsightedness on our part. The proposed rules are inadequate in intent and substance. The lag time for implementation is far too long. The hazards are known, the technology exists, and the concern for animals and human health is real and present. The board has a responsibility to implement its mission with incredible due diligence, and the cap-

and-trade and implementation proposals do not accomplish this. We have the right and the ability to minimize the impact of large-scale coal development on human health and safety for generations, and we have a responsibility to exercise that to our fullest ability.

COMMENTS: A commentor stated that the board should require all plants to have a department-approved plan for limiting emissions to 0.9 lb/TBtu by 2010 but that the board should not adopt a cap-and trade program. Delaying mandatory reductions would postpone an essential and unavoidable step toward a solution, while compounding negative health impacts. Rather than postponing compliance by investing in other states' cleaner air by purchasing credits, that money should be invested in emission control technology in Montana. Allowing plants to buy pollution from a cleaner state, in lieu of implementing more stringent controls, needlessly puts Montana communities at risk.

COMMENTS: A commentor stated that cap-and-trade is inappropriate for toxic pollutants like mercury that may create hot spots, and cap-and-trade would only transfer or aggravate pollution at another site.

COMMENTS: A commentor stated that mercury pollution is a local, national, and global problem. Reducing mercury pollution on the state level may encourage other states to do the same.

COMMENTS: A commentor stated that the board should adopt more stringent mercury standards than the standards in CAMR.

COMMENTS: A commentor stated that, because CAMR does not address localized impacts of mercury emissions or apply any specific limits on emissions from individual facilities, CAMR does not sufficiently protect Montana from exposure to mercury hot spots. To reduce localized exposure to mercury, the rules should require that all EGUs have equipment installed that can control mercury. The rules also must set reasonably achievable emission limits for all facilities.

COMMENTS: A commentor stated that, to diminish the burden of disease in current and future generations of Montanans, to mitigate financial hardship on our local taxpayers, and to provide an example of proper ethical behavior, we owe it to our grandchildren to control mercury emissions as much as possible.

COMMENTS: A commentor stated that Montana has a history of outsiders extracting our resources and leaving a damaged environment behind. Now, we have an opportunity to require them to keep our state as uncontaminated as possible.

COMMENTS (8.a): A commentor stated that, if the board adopts a cap-and-trade provision, industry should be required to post bonds for, and be absolutely liability to, any person who suffers from any malady where mercury is directly or

indirectly involved. Further, the board should provide that, if a financial cap is placed on damages, any right to trade becomes void from inception.

COMMENTS: A commentor stated that cap-and-trade regarding mercury emissions is unethical and morally unconscionable. It is morally wrong to inflict such a widespread and long-lasting health hazard on human and animal lives for generations to come. Mercury is a toxin that has a cumulative effect within our bodies and has the capacity to inflict lasting ecological damage to our planet.

COMMENTS: A commentor stated that the rules proposed by the department are inadequate in intent and substance. The lag time for implementation is far too long. All power plants, present and proposed, should utilize BACT and not be allowed to “buy” the leeway to release toxins into our atmosphere through a cap-and-trade provision.

COMMENTS: The Northern Cheyenne Tribe commented that technology exists that can control most of the mercury pollution at the coal-fired power plants and that this needs to be implemented to protect public health and the environment. Cap-and-trade should not be considered because it would allow other power plants to buy and trade mercury emissions that could allow the Colstrip facility to increase its emissions and even more affect the Northern Cheyenne Reservation. The Northern Cheyenne Reservation is only 13 miles downwind of Colstrip, and the Northern Cheyenne people and their environment will be greatly impacted if the rules are adopted as proposed. The department should address local mercury hot spots. The cap-and-trade program has never been used before for a toxic air pollutant and will place public health at risk. EPA's own inspector general found that the cap-and-trade program could lead to toxic hot spots. The board should adopt rules to make these plants clean up and protect human and environmental health on the Northern Cheyenne Reservation.

COMMENTS: A commentor stated that the department’s proposal is incredibly complicated, and that a system is needed that is fair, predictable, and simple. Cap-and- trade fails on every point. It is legally flawed, economically flawed, and technologically flawed. It does not protect public health and 12 years is too long for the public to wait for real public health protections. The federal cap-and-trade program fails to provide essential protections to people who live downwind of EGUs.

COMMENTS (8.b): A commentor stated that the really disturbing part of the cap-and- trade program is the banking part. When a source achieves early control, it may bank emission credits. That is why, when questioned about the 15-ton national limit in 2018, EPA admits that the national limit probably will not be met until sometime after 2028 because of the banking provision.

COMMENTS (8.b): A commentor stated that one of the principles of cap-and-trade is early controls are rewarded, and banking is supposed to reward early controls. However, the mercury reductions for 2010 are just co-benefit controls that

the utilities in the east are going to have to achieve under CAIR. So, they are doing nothing to control mercury.

COMMENTS (8.c): A commentor stated that the federal Clean Air Act states that air pollution prevention primarily is the responsibility of states and local governments. EPA did not do it, so it is our responsibility to do it.

COMMENTS (8.d): A commentor stated that allowing one plant to exceed the emission limit while another plant reduces its emissions just means that children in one area are going to be more poisoned than another, and we are letting the companies decide where that is going to happen. It is unethical, it is unacceptable for Montana, and, given the number of lawsuits, it is very likely to be found to be illegal. Other states and local governments are opposing interstate trading.

COMMENTS (8.e): A commentor stated that cap-and-trade is an averaging approach, and, when you take the average of average averages, you lose some essential geometry. In the Great Falls area, the wind is going to go in a lot of different directions. If you have a point source of mercury and a lot of other pollutants that is located not too far away, this is the closest population that will be affected. Average of average averages misses some essential points of the geometry.

COMMENTS: A commentor stated that cap-and-trade may be good for the polluter's bottom line, but their neighbors are the losers, whether the rules allow interstate trading or only intrastate trading. But, it would be much more detrimental to Montana to allow interstate trading. This would allow Montana to become the mercury dumping place for the region or the nation. Our plants could continue to be dirty while those in surrounding areas would have to clean up. We do not even benefit from the power generated, as most of it is exported. It would be win/win for everyone else and lose/lose for Montana.

COMMENTS: A commentor stated that Montana already has mercury advisories for its streams and lakes. Not only does this sully our pristine image and take some of the fun out of fishing, it creates real problems for our Native American peoples whose heritage and right it is to fish for sustenance. They may need to fish to provide a large portion of their family's protein needs. By doing so, they are endangering the next generation. Even if that were not the case, the very fact that fish are polluted is an affront to them, and it should be an affront to us, as well, when polluters tell us they cannot afford to clean up their effluent. Why should we in Montana wish to make it easier on polluters to operate their businesses in Montana? Can we not learn the lessons of history? We can create clean and green industries and businesses. We do not need to rely on greedy corporations to provide for us as if we were helpless to envision or dictate our own destiny. Our state constitution guarantees us the right to preserve treasures such as our land, water, forests, and big sky. The board is entrusted with the ability to tell polluters that we have drawn the line and, in order to do business in Montana, they must clean up. Catch a better

vision for Montana, and it will be clear to you that a cap-and-trade rule for mercury pollution is unthinkable.

COMMENTS (8.f): A commentor stated the department has opted to include interstate cap-and-trade in its proposal because it does not want to preclude future energy development but that this assumes that future energy development in Montana needs to be in the form of traditional pulverized-coal facilities. An energy future that includes additional coal-burning facilities threatens Montana's air, water, and public health. It is also out of sync with the governor's vision for Montana's energy future, which is to use the newest and cleanest technologies for new coal development. We can have a clean environment, we can create jobs, and we can create economic development. We do not have to rely on traditional, dirty, pulverized-coal facilities.

COMMENTS: A commentor stated that cap-and-trade will not work. Some research papers have shown fallout to be local and to heavily adversely affect the locale at which the emission is occurring.

COMMENTS: A commentor stated that everyone is affected by mercury pollution. Little children and pregnant women probably are more heavily affected than anybody. Do we base our societal values on simply making money regardless of what it does to the rest of us? Cap-and-trade will just encourage the building of more of these facilities, which will produce more and more pollution. There is ample evidence that there is a great local effect. It is not just effects from outside the area. Cap-and-trade is a crazy policy.

COMMENTS (8.c): A commentor stated that Montana should join the 15 plus states and several municipalities in going beyond CAMR.

COMMENTS: A commentor stated that there is so much flexibility in the rules that they bend over backward to accommodate an industry that is making money hand- over-fist. It is inappropriate to have a cap-and-trade program, especially, when the rules already provide so much flexibility to this industry. The proposed rules would allow plants to profit from selling credits out of state and allow plants in other locations in this country to increase their mercury emissions, and that is wrong. We would be exporting pollution, and it is wrong to poison people in Montana, Alabama, or anywhere. If we have the ability to control mercury, we should do it, and we should not export our problem to somebody else in the name of economic gain.

COMMENTS: A commentor stated that using credits purchased from other areas, which would allow localized accumulation in Montana, would compound our already existing problem. This practice creates an investment in pollution, rather than our future. Banking credits until the federal deadline is reached in 2018 allows the industry to invest in pollution well into the future, avoiding limits long past the deadline.

COMMENTS: A commentor stated that, if trading as a safety valve is necessary, only instate trading should be allowed, to reduce local emissions.

RESPONSE TO COMMENTS IN "AGAINST CAMR AND EMISSIONS TRADING" CATEGORY: The board agrees that a cap and trade program by itself would not be appropriate for a hazardous air pollutant such as mercury. However, the final rules adopted by the board include mercury emissions restrictions and requirements for pollution control devices, technology, and/or practices that control mercury emissions. The board is sensitive to the sense of urgency surrounding this issue; the implementation schedule balances the technological and economic feasibility of installing controls with expeditiousness. A cap and trade program is included beyond that emissions control "track" to provide added incentive and flexibility for reducing mercury emissions. However, no EGU regulated under the board's final rules would have the ability to buy its way out of controlling mercury by purchasing allowances. In addition, the cap and trade program will provide a disincentive for choosing an alternative emission limit because the allowances will be distributed at either 0.9 lb/TBtu for non-lignite combustion or 1.5 lb/TBtu for lignite combustion, making it expensive for EGUs to buy allowances to emit up to an alternative emission limit.

8.a The department has authority to assess a penalty against the owner or operator of an EGU who violates an air quality requirement, and the department has authority to require corrective action. However, the department does not have authority to determine whether a person has been injured by emissions from an EGU or to award damages to an injured person. A person seeking damages for an injury caused by emissions from an EGU would need to pursue a civil action in court.

8.b The board believes any early control measures to reduce mercury emissions, including those produced through the "co-benefits" of control for other pollutants, should be lauded. While EGUs in other states may not be required to implement specific control for mercury in 2010, under the board's rules, by 2010, all EGUs in Montana will be required to implement a control strategy specific to the control of mercury emissions and will be required to meet stringent mercury emission limits.

8.c Without discussing the relative merits of (1) EPA's decision to repeal the December 2000 finding by removing coal- and oil-fired EGUs from the hazardous air pollutant source category list, and (2) EPA's acting instead to regulate mercury emissions pursuant to existing authority under 42 USC §7411 (New Source Performance Standards), which establishes standards of performance for new stationary sources and existing sources not otherwise regulated under the Maximum Achievable Control Technology program, the statement that the federal government did not act to regulate mercury is inaccurate. EPA promulgated CAMR and directed states to develop mercury control plans, offering a proposed cap and trade program as an approvable option under CAMR. The board decided that EPA's proposed cap and trade program, alone, was not appropriate for Montana and has developed a Montana-specific mercury control plan that will be submitted to EPA and that

includes mercury emission limitations and control requirements as well as a cap and trade provision.

8.d The board's mercury rules will continue in effect, regardless of the disposition of any challenge to EPA's CAMR. The board has included a severability clause to maintain the mercury emission limitations and control requirements even if CAMR is vacated or remanded to EPA. As discussed above, under the board's rules, the owner or operator of an EGU will not be able to purchase emission credits to exceed an emission limit. Under the board's rules, the owner or operator of an EGU in Montana may use purchased emission credits only to allow emissions of mercury up to the applicable emission limit. While this does allow for trading of emission allowances and development of some new EGUs in the state, the stringent emission limits in the board's rules will protect public health and the environment.

8.e The mercury control plan finalized in the board's rules contains stringent mercury emission limits and control requirements, so that any "averaging" associated with a cap and trade provision has much less impact and public health and the environment are protected.

8.f Promotion of, or requirements for, alternatives to traditional pulverized coal-fired power generation are issues of policy for the Montana Legislature, rather than issues within the rulemaking authority of the board pursuant to the Clean Air Act of Montana. However, the stringent emission limits and control requirements in the mercury rules being adopted by the board may have the indirect effect of promoting development of alternatives to pulverized coal-fired energy generation.

CAMR Violates the Federal Clean Air Act

COMMENTS: Several commentors stated that CAMR violates the FCAA.

COMMENTS: A commentor stated that CAMR does not meet the requirements of the FCAA and is based on the federal government's sudden disregard for the ample scientific evidence of mercury's health and environmental impacts and of the availability of cost-effective treatment technology.

COMMENTS: A commentor stated that the board should opt out of the federal mercury control program and adopt more protective standards, because EPA's CAMR violates the FCAA. There was extensive scientific evidence showing that power plants are the number one contributor of mercury emissions in the U.S. Based on that, EPA determined it was necessary and appropriate to regulate EGUs under Section 112 of the FCAA, providing for maximum achievable control technology (MACT) standards. When EPA delisted EGUs from Section 112 and promulgated CAMR under Section 111, it did not make the necessary showing because it could not be made. The only way EPA could have removed EGUs from the Section 112 list was to show that emissions from EGUs would not exceed a level that is adequate to protect public health with an ample margin of safety and no adverse environmental effect would result from emissions of any EGU. The problem

with EPA choosing to not regulate EGUs under Section 112, as required by the FCAA, is that it ensures CAMR cannot stand up in court. Also, EPA has no authority to create a cap-and-trade program under either Section 111 or 112 of the FCAA. CAMR fails to satisfy even the more flexible requirements of Section 111. Most notably, in promulgating CAMR, EPA ignored the best available mercury pollution control technology, ACI, which would allow for much greater reductions in mercury emissions on a much faster timeline than is provided for under CAMR. Thus, contrary to the FCAA, CAMR does not establish standards that "reflect the degree of emissions limitations" that are now "achievable through the application of the best system of emission reductions." Just the opposite, CAMR would have the perverse result of allowing mercury emissions to increase in some states. If the board adopts CAMR, it will be obliged to undertake yet another rulemaking process in the likely event that CAMR is struck down in the course of ongoing litigation in the D.C. Circuit Court of Appeals. The board would be wise to adopt rules that would be consistent with MACT standards that will eventually be adopted by EPA -- standards that reflect the best that can be done in controlling mercury emissions from power plants.

COMMENTS: An officer of the State and Territorial Air Pollution Program Administrators/Association of Local Air Pollution Control Officials (STAPPA/ALAPCO), testifying on his own behalf, and not on behalf of STAPPA/ALAPCO, commented that the position of state and local agencies that discussed MACT regulations for EGUs with EPA was: minimal subcategorization; the most stringent levels of mercury control possible; a multi-pollutant approach; enhancement of the ability of states to implement the standards; early compliance encouraged through the use of incentives; and no trading of toxins. It is clear that neurotoxins cannot be traded under the FCAA. The EPA rulemaking process ignored these points, and was truly flawed. In addition to the states' environmental commissioners, STAPPA/ALAPCO have stated that CAMR is inadequate to protect public health, inconsistent with the FCAA, and does not account for available technology. The Children's Heath Protection Advisory Committee to EPA stated that CAMR does not go far enough to protect children, infants and women of childbearing age. CAMR is illegal and will be overturned. The deadlines are too protracted and it does not reflect what is technically feasible.

COMMENTS: A commentor stated that a February 3, 2005, report of the Office of Inspector General of EPA reported that politics steered science. The evidence indicates that EPA's senior management instructed EPA staff to develop a MACT standard for mercury that would result in national emissions of 34 tons annually, instead of basing the standard on an unbiased determination of what the top performing units were achieving in practice. The standard likely understates the average amount of mercury emission reductions achieved by the top performing utilities. In a similar May 2006 report, the Office of Inspector General of EPA stated that CAMR fails to recognize scientific data concerning local deposition and a great deal more monitoring is required to reach the conclusion that CAMR will not allow hot spots.

RESPONSE TO COMMENTS IN "CAMR VIOLATES THE FEDERAL CLEAN AIR ACT" CATEGORY: Whether CAMR is found to be unlawful or not in the future has no present effect on the CAMR requirement that states in which operating EGUs are located, including Montana, submit a mercury control plan to EPA by November 17, 2006. However, the board has included a severability clause in its rules. Pursuant to the severability clause, if CAMR is vacated or remanded to EPA, the monitoring requirements from CAMR, referenced in New Rule I, would remain in effect. New Rule II would be rendered useless if CAMR is vacated because New Rule II outlines the allocation of allowances and the timing of those allocations based on EPA's cap and trade program. Without EPA's cap and trade program, New Rule II would be meaningless.

Emission Limits/Control Technologies

COMMENTS: Several commentors stated that the proposed emission limit of 0.9 lb/TBtu may not be achievable.

COMMENTS: SME commented that the proposed mercury emission standard of 0.9 lb/TBtu for implementation in 2015 is a very stringent limit and will be challenging to meet. SME is engaged in negotiations with two major international boiler manufacturers and both entities are uncertain that they can guarantee achieving 0.9 lb/TBtu on a standard sustainable basis. Both agreed to guarantee a mercury emissions limit of 1.5 lb/TBtu, or 90% removal, but stated it is one thing to achieve an emissions limit at a test facility and for short periods of time, but that betting $515 million on a sustained capture rate is a different matter. Alstom Power, one of the boiler manufacturers, stated that the issue with 0.9 lb/TBtu is a combination of not having field test data to support guaranteeing such a low level, and, perhaps more importantly, not having instruments capable of reliably measuring such a low level of emissions from a utility-sized boiler.

COMMENTS: PPL commented that it has reviewed the technology across the industry and conducted actual testing at the Colstrip facility, and the conclusions are that compliance will be difficult and will require the flexibility of trading because of the uncertainties with respect to control technology and the variability of the mercury in the coal. The three fundamental areas of uncertainty are: mercury content of coal; confidence in control technology for mercury reduction; and actual mercury reductions obtained at Colstrip after the application of mercury control technology. To achieve an emission limit of 0.9 lb/TBtu heat input, the level proposed in Montana's New Rules I and II, the required mercury control varies from 73% removal for the mean mercury content to 90% for the highest mercury content. More data must be collected from Colstrip coal source deposits to be able to predict the coal mercury content in future years. The current lack of data on long-term performance of various mercury reduction technologies on plants such as Colstrip that burn Powder River Basin coal may drive the plant to install far more expensive control than if there were flexibility to try more cost-effective controls with the option of purchasing allowances if those controls turn out to be insufficient.

COMMENTS: PPL commented that there is a lot of literature stating that different plants have been able to achieve different levels of control. What has been seen at Colstrip is that plant-specific conditions drive the level of control. As PPL reviewed the control technologies and their capture efficiencies, PPL has seen that, for the Colstrip facilities, it appears that additional development of chemical injection technology and use of the existing scrubbers at Colstrip may achieve up to 80% mercury capture. However, to get to the 90% level, the review of the technology indicates that a fabric filter probably would be required, and implementation of that technology would be a major retrofit at the Colstrip facility. Installing the technology at Colstrip required to achieve the small incremental gain from 80% to 90% removal would be a huge, difficult project and would be very costly. There are many issues involved with such a project, including finding the space to install the equipment and balance-of-plant impacts, such as the need for extensive ducting to tie the equipment into the plant, fan upgrades and probably extensive scrubber modifications to allow the plant to meet existing SO_2 requirements. The cost of a fabric filter retrofit at Colstrip, based on industry average, would be about $250 million. The costs of addressing the balance of plant impacts could equal that amount, for a total of half a billion dollars. Such a retrofit would take at least 5 to 6 years from conception to implementation. Also, it is not certain that a fabric filter-type technology would achieve 90% control at Colstrip because, as PPL has learned in its testing, PPL has not been able to achieve the numbers that the literature indicates have been achieved at other facilities.

COMMENTS: PPL commented that there are a couple of specific conditions at the Colstrip facility that are unique. Colstrip is a mine-mouth plant that burns Montana coal, which is a low-sulfur, but also low-chlorine, coal. Low-chlorine coal limits the effectiveness of a lot of control technologies because chlorine acts as an oxidizer, which helps convert elemental mercury to oxidized mercury so that it can be removed. Colstrip has no rail or loading facilities or coal blending capabilities to accommodate other coals at this time. The wet scrubbers at Colstrip are very efficient at controlling emissions from the plants, however, the predominant form of mercury in the flue gas from low-chloride coal at Colstrip, elemental mercury, is not water soluble and is not removed in the wet scrubbers. Oxidized mercury is water soluble and can be removed by wet scrubbers. There are control technologies that oxidize elemental mercury so that it can be removed in web scrubbers, and that is the prudent approach to take at Colstrip.

COMMENTS: PPL commented that there appear to be several technologies that can achieve from 50-80% mercury capture at Colstrip. One would be ACI. Up to 50% mercury capture may be achieved across wet scrubbers with this technology. However, in testing at Colstrip with ACI, less than 10% mercury capture was achieved with this technology. Another technology that may achieve this range of control is chemical injection. Up to 80% mercury capture may be achieved across a wet scrubber. PPL tested two different types of chemicals, both oxidizers, at Colstrip and achieved about 30% mercury capture with this technology. PPL also tested a combination of both activated carbon and oxidized injection. The preliminary results indicate that PPL achieved anywhere from 8% to 30% mercury capture with these

technologies. This lower-than-expected mercury capture emphasizes the effect of plant specific coal and equipment on mercury control technologies.

COMMENTS: PPL commented that it appears that the lower mercury capture at Colstrip may be related to the mercury's attachment to very small particles. The Colstrip scrubbers are very efficient at removing the fly ash particulate they were designed to remove, which normally is in the range of 10 microns. Powdered activated carbon is much smaller than that, and it appears that it is getting past the scrubbers.

COMMENTS: PPL commented that it is planning long-term testing for 2007, which will be used to further develop the technologies to enhance capture and also evaluate balance-of-plant impacts. With almost all of these technologies, there is some negative result for the rest of the operation of the plant at Colstrip, and PPL needs to understand exactly what those impacts are going to be.

COMMENTS: PPL commented that, based on a limited amount of data, the KFx coal treatment process is expected to produce treated coal that contains up to 70% less mercury than untreated coal. However, the Corette plant's boiler may not be able to exclusively burn the treated coal because of its higher heat content. It is expected that the treated coal may have to be blended with untreated coal. Therefore, if mercury reductions greater than 30-70% are required, as would be required by the proposed rules, controlling mercury emissions solely by this fuel modification most likely would not be adequate to achieve compliance.

COMMENTS: PPL commented that using chemically treated ACI upstream of an electrostatic precipitator (ESP) has enabled some PRB-fired EGUs to achieve 90% mercury control. However, this technology has been tested only on plants that have a large ESP, as opposed to facilities with a small ESP, as exists at the Corette plant. The size of the ESP is important for the success of this technology because the amount of activated carbon that can be injected may be limited if the ESP is not large enough to collect enough of the particulates generated to remain in compliance with the facility's particulate emission limit. With no test data, it is impossible to predict how this technology would perform at Corette. A full-scale demonstration of ACI is needed at Corette to determine: whether brominated ACI can provide the required mercury removal; and whether ACI could pose an opacity problem or other operation and maintenance problems. The capital cost of installing a typical ACI system at Corette is estimated at $855,000. The operating cost, which is a variable cost that increases with the consumption of chemically-treated carbon and any lost ash sales, could be very high, depending on the price of activated carbon and the alternative disposal costs for the fly ash.

COMMENTS: PPL commented that it is researching a Toxecon™ process, which involves the addition of a pulse-jet fabric filter downstream of the ESP. In the Toxecon™ process, chemically treated activated carbon is injected into the flue gas after the ESP, but upstream of the fabric filter. The capital cost of a typical Toxecon™ process system is about $17 million, and additional plant modifications

that have not yet been identified may be required. While the Toxecon™ process should address the ESP size limitation and should not affect ash sales, because the carbon would be collected in the baghouse while the fly ash would still be collected by the ESP, the process has a much higher capital cost and increased operating costs for disposal of the mercury-laden carbon in a landfill and has not been demonstrated for a plant that fires PRB coal. At the highest mercury control percentage evaluated, 90%, Toxecon™ represents a higher probability of success as a retrofit technology choice for Corette than does ACI. A brief test using ChemMod liquid also was conducted at the Corrette plant. Although the test looked promising, the plant did not achieve near the levels of reduction that would be required under the proposed rules. A longer test burn in the boiler would need to be conducted before PPL can consider it a candidate technology.

COMMENTS: PPL commented that the infeasibility of the proposed rules is illustrated by the fact that they would apparently require the Colstrip facility to commit now to the most aggressive technology currently available, the extraordinarily expensive fabric filter technology. However, there is no sound basis to project now that the technology will in fact achieve the 0.9 lb/TBtu limit by 2010. Long-term testing under varied circumstances that would be required to make that projection has not been done. Also, installation of the technology now would foreclose the option of adopting a new or different technology that may prove, as technology advances, to be a better choice – maybe the only good choice – for the facility. The proposed rules could force a choice for the Colstrip facility that results in the waste of hundreds of millions of dollars only to find that the facility is unable to meet the rule requirements.

COMMENTS: MDU commented that the rules should not contain specific emission limits, but that limits should be based on an achievable unit-specific technology through a BACT/Best Available Retrofit Technology (BART) process and should be included in permits. The technology selection, in conjunction with allowance trading, would address “hotspots” and allow sufficient flexibility for plant operators. The control selection process must include technology that is commercially available at the time of the selection, and consider energy impacts, other environmental impacts, and economic considerations. Due to the variability in coal and power plant configurations, limits should be based on technology selection, rather than the “one-size-fits-all” emission limits in New Rule I, Section 1. The cap-and-trade program should be used to supplement this approach, if needed by a unit to meet its allocation of the state’s budget.

COMMENTS: A commentor stated that, to be successful with mercury control technologies, it is critical to understand what you start with and the system you are trying to operate, and the challenge is significant. It is necessary to be able to follow the technology and somehow manage the way the system is operated to make certain the desired level of control is obtained over a long period of time. It is necessary to understand the combination of the fuel and the system and how those are interrelated in the particular situation, and ash characteristics and particulate control both can affect how effective different controls may be.

COMMENTS: A commentor stated that reliability and balance of plant equipment and operational impacts have to be known in order to determine mercury control availability. The initial sets of 30-day tests by EERC have been focused on the level of mercury that can be removed. The focus has not been on what happens to the rest of the facility when the mercury is removed. That will be the focus of the longer term Department of Energy testing in three or four month increments starting this fall.

COMMENTS: A commentor stated that, due to fuel differences, there is no one-size-fits-all technology. There are marked differences between western fuels and eastern fuels, and there are many related issues, but chlorine content is critical. In most of the eastern coals, there is a much higher level of mercury, so it can be reduced by 80%, but there may not be lower emission levels than what will occur with some of the other facilities, even under a much less scrubbed condition. There also are issues regarding guarantees, balance-of-plant impacts, and the need for longer term demonstrations. Regarding mercury control guarantees, vendors want to first have three facilities, at a 500-megawatt scale, operating for three years before they consider guaranteeing production levels and other impacts. Also, the power industry is unique in many ways because people are not willing to accept the lights going on 90% of the time. The equipment that is used to generate power has to be available all of the time, so it is necessary to be very careful and cautious about new technology options for this industry. We will get there, but we need to have the time to do this properly, and we need to go through the appropriate steps and get the information to make certain that we are not making big mistakes.

COMMENTS: A commentor stated that mercury control technologies are in various phases of development, ranging from technologies tested only in a laboratory to those that have undergone full-scale testing at coal-fueled facilities. Only one mercury control technology, ACI, has been tested for a longer period – one year at a single utility unit.

COMMENTS: A commentor stated that one of the primary concerns with the rules is that the board would establish an emission limit on a wide-range of existing and proposed power generation sources without knowing the costs or whether the affected community can comply. For example, there are facilities in Montana for which neither the department nor the board has any measured data with which to ascertain compliance with or without added air pollution control equipment. It is inappropriate to propose an emission limit for these sources without some advanced knowledge regarding compliance.

COMMENTS: A commentor stated that chlorine oxidizes mercury and the very low levels of chlorine in the coal burned at the Colstrip facility means that the vast majority of the mercury emitted at Colstrip is in the elemental form. Elemental mercury is not deposited locally, whereas oxidized mercury is, to a greater degree. The concentration levels of mercury in the coal at Colstrip also differ considerably. These fluctuations in concentration make it difficult to predict the type of control

technologies and removal efficiency that will be needed to achieve a pre-determined emission limit at all times.

COMMENTS: A commentor stated that recent testing showed that the mercury capture rate is approximately 10% at the Colstrip units. Two “add on” methods are candidates to increase mercury capture, possibly in the range of 50% to 80%, using the existing wet scrubbers. These methods are chemical addition and ACI. Additional mercury control technologies are under development, which also operate by removing mercury. These, however, would have to virtually replace, not enhance, the existing wet particulate scrubbers at the Colstrip facility. Two of these technologies include: a fabric filter retrofit; and a multi-pollutant control process. Both of the replacement technologies have yet to be tested over the long term, and also would be very costly to put into operation at the Colstrip facility due to the need to replace the existing emission controls.

COMMENTS: A commentor stated that, unlike the units at which such technologies have been tested, the Colstrip facility has wet scrubbers rather than ESPs or fabric filters. Many mercury control technologies rely on mercury co-removal from ESPs or fabric filters.

COMMENTS: A commentor stated that the companies that make air pollution control equipment have concluded that a 50-70% reduction in mercury will be achievable within the next few years, by 2008 or 2010. Also, there has been anadvancement in the control of western subbituminous coal mercury emissions. When EPA came out with CAMR, it was thought that sub-bituminous coal was more difficult to control than bituminous. Now, it is just the opposite.

COMMENTS (10.a): Several commentors stated that the proposed emission limits either are appropriate or that they should be more stringent and require 90% to 95% control.

COMMENTS: A commentor stated that an alternative to a 90% reduction would be to set a low level to reach in a fixed amount of time.

COMMENTS (10.a): A commentor stated that new plants should be required to meet mercury emission standards as stringent as integrated gasification combined cycle (IGCC) technology would provide because it is clearly the best available technology. Existing plants should be required to remove 90% of mercury emissions and should be given short but adequate time to retrofit with the new technologies.

COMMENTS (10.b): A commentor stated that development of good control technology will protect coal’s future and provide certainty to all stakeholders. Because CAMR will be found to be illegal, and everyone needs certainty for regulations, the greatest certainty will be in those states with stringent 90% to 95% control.

COMMENTS (10.a): A commentor stated that the rules should distinguish between existing and new sources. The board should give the old plants time to install the newest, best technology and achieve 90% control. The new plants, including the one being proposed for Great Falls, should be limited to zero emissions of mercury.

COMMENTS (10.c): A commentor stated that, given the level of technology that exists today, the performance standards applicable to new plants also should be required for existing plants.

COMMENTS (10.d): A commentor stated that emission levels below the proposed emission limit of 0.9 lb/TBtu likely will be possible using the best available technology, and the board should consider adopting a more protective emission limit. EPA's flawed allocation should not be used as the basis for determining an appropriate limit.

COMMENTS: A commentor stated that the existing rules are sufficient. When older plants are rebuilt, they are required to be fitted with the most up-to-date, cleanest pollution control technology available. The Colstrip and Corette plants are 25 to 30 years old. They all either have been substantially rebuilt already or are in the process, and they should be required to change their pollution control devices now under the current law. A society should use its best technology, which is the least that can be done for our children.

COMMENTS: A commentor stated that EPA's actions undermine Montana's ability to develop a plan that is right for our state, based on our concerns, and our industries, etc. Rulemaking is essential to reducing mercury emissions and protecting public health, fishing, tourism, the recreation industry of our state, and our planet. If the board adopts the department's proposal, the board should eliminate the cap-and-trade provision, except, perhaps, for intrastate trading for a very limited time, and reduce the timeframe for meeting the lower emission standard from 2018 to, perhaps, 2010. The board should hold to stringent levels, from 1.5 to .9. A more stringent mercury rule would not cut off new development, given the 298-pound limit. States can decide the amount available for existing projects and the amount to be reserved for new ones. The board should allocate Montana's budget between existing and new projects in ways that best meet our needs and protect public health, and the department's proposal to reserve 29% for new projects and reserve 33% after 2014 is appropriate.

COMMENTS: A commentor stated that industry relies on the laws to make them responsible for the environment, and they will hold to those laws. The sooner the laws are set in place to control mercury, the sooner industry will do it. The longer the board waits, the more lenient the rules will be, and the longer it will take to reach the hydrogen age.

COMMENTS: A commentor stated that activated carbon and other sorbents have been available since the early 1990s and have been used in the U.S. and

Europe to control mercury emissions from waste boilers. It has essentially eliminated mercury because the top two manmade mercury sources in the U.S. were the medical waste and municipal waste burners. Usually, pollution control devices are very large boxes, and the air pollution control equipment is comparable in size to the generating facility itself. Mercury control is not another big box; it is a way of turning existing boxes for SO_2, PM, and NO_x control into mercury control devices. Adding a "big box" for pollution control may take years, but mercury control can be added in about 6 months. If you install a "big box" device, you have made a huge capital commitment for the life of the plant, and if somebody comes up with a new, better control device, you can not take advantage of it. But, with sorbent injection, the advances in technology occur in what is put in the silo that is attached to the mercury control device. So, you are not stuck with today's technology. As sorbents improve, you can take advantage of the improvements.

COMMENTS: A commentor stated that the best particulate control device, for control of mercury, is the fabric filter. The dust is collected on a filter that looks like a giant vacuum cleaner bag. Because the dust is collected on the filter, carbon is collected on the filter, and there is very close contact between the gas and the carbon again, resulting in a second chance for removal. In an ESP, the plates are spaced about a foot apart and the particles are collected on the plates, so the gas flows between the plates, resulting in another chance for the gas to interact with the carbon. It is not as good as a fabric filter, but the gas is between the plates for a few seconds, and there is time for some additional removal. The most difficult case for mercury removal is the wet particulate scrubber. The gas comes in with the particles, the particles are hit with high-velocity water jets, and the water immediately captures the particles and sweeps them away. So, there is no possibility for carbon to have a second chance of contacting the gas, and it is necessary to focus on capturing as much mercury as possible before it gets into the device, because the carbon is immediately removed.

COMMENTS: A commentor stated that the difficulties of dealing with western coals relate to the lack of halogens. Advances have been made, and halogens -- chlorine and bromine and fluorine and iodine – can be added by spraying them into the gas stream or by adding them directly to the sorbent. Tests have been conducted to determine what this will do for western coals. At one plant burning PRB coal and using an ESP for particulate control, injecting a brominated sorbent achieved an average of 93% removal at a relatively low injection rate and achieved 0.4 lb/TBtu in a month-long test. In another unit burning PRB coal, with a spray dryer and fabric filter for SO_2 and particulate control, a control efficiency of 93% and 0.8 lb/TBtu were achieved.

COMMENTS: A commentor stated that the primary control device for mercury emissions from municipal waste combustors is the same control that would be used on power plants, proving that the technology is available and that mercury emissions from power plants can be controlled.

COMMENTS: A commentor stated that, despite arguments that mercury is a global issue and most emissions come from Asia, the U.S. can develop the technology for controlling mercury, control the mercury emissions we are responsible for, and export the technology around the world.

RESPONSE TO COMMENTS IN "EMISSION LIMITS/CONTROL TECHNOLOGIES" CATEGORY: Data in the record shows that 0.9 lb/TBtu has been achieved by EGUs firing western subbituminous coals. However, the board understands that mercury emissions control technology is rapidly maturing and that the effectiveness of different technologies varies widely depending on the particular coal combusted and the particular boiler and control technology configuration utilized. The final rule reflects both of those issues by using a target mercury emission limitation, but allowing for alternative emission limits if the technology chosen does not perform to expectations. This "soft landing" provision should relieve the concern regarding obtaining financing for new EGUs. In addition, the final rules are not prescriptive with respect to particular mercury control technologies because the board is aware that mercury control is not a one-size-fits-all solution. Owners and operators of EGUs can work with the department to propose and permit an appropriate mercury control strategy for each EGU, considering boiler and control technology configurations as well as balance of plant issues. The rule states: "The owner or operator shall include in the application an analysis of potential mercury control options including, but not limited to, boiler technology, mercury emission control technology, and any other mercury control practices." An owner or operator is required to include in the application "a proposed mercury emission control strategy projected to achieve compliance with the emission limit in (1)(b)." The term "projected to achieve" is based on an owner or operator submitting information sufficient to cause the department to believe there is a reasonable possibility that a particular (or combination of) mercury control technology would enable the EGU in question to achieve the limit in (1)(b). The analysis of boiler technology is intended by the board to allow inclusion of specific boiler technologies or boiler optimization techniques that provide mercury control in the analysis for the specific boiler configuration in use or proposed. The analysis of boiler technology is not intended, in any way, to require redefinition of the emission source or a change in boiler technology from the currently installed or proposed boiler configuration. Similarly, in later parts of the rule that require a mercury-specific BACT analysis, the board's intent is not to redefine the emission source by changing the boiler technology utilized. Again, the intent is to allow consideration of capabilities for mercury control of the specific boiler technology installed or proposed or optimization of the installed or proposed unit. This approach is consistent with the application of BACT for other pollutants, which requires a review of control technology for the proposed new or modified unit. An emission trading provision in the rules will provide an incentive for the owners and operators of EGUs to decrease mercury emissions below the emission limitations.

10.a The board is approaching the mercury limitation from two angles: first, by establishing a 1.5 lb/TBtu limit for lignite-combusting units and 0.9 lb/TBtu limit for non-lignite combusting units; and second, by requiring a mercury control strategy

with subsequent BACT reviews and requirements. This approach allows EGUs to implement plant-specific mercury control strategies while ensuring that any improvements in technology also can be implemented. The rules encourage reductions beyond the mercury emission limitation by allowing plant-specific control solutions and adding trading provisions for an economic incentive. It is not possible at this time for a fossil fuel fired EGU to meet a "zero emissions" standard. No current fossil fuel fired combustion technology, including IGCC, eliminates all emissions. Requiring facilities to meet an emission standard based on a completely different combustion technology would amount to requiring that technology, which is outside the scope of this rulemaking. Based on EPA guidance and precedent, "Best Available Control Technology" analysis is used to determine the best control technology for a particular proposed emission source, not to define the process or redefine the emission source.

10.b As discussed above, whether CAMR is ultimately invalidated by the courts, Montana presently is required, pursuant to CAMR, to submit a mercury control plan to EPA for its approval. The board has included a severability clause in the final rules, which will maintain the monitoring requirements from CAMR, referenced in New Rule I, if CAMR is vacated or remanded to EPA. The stringent mercury emission limitations and mercury control requirements in the board's rules would remain in force regardless of the status of CAMR, providing certainty to industry, the public, and regulators in Montana.

10.c Under the board's rules, the same mercury emission limitations and control requirements will apply to both new and existing facilities. However, the board recognizes the greater difficulty that is associated with retrofitting existing equipment, and therefore, has provided a larger amount of flexibility regarding upper limits on the alternative emission limits for existing facilities.

10.d The board agrees that mercury emission limits below 0.9 lb/TBtu may be possible, particularly for new units. The rule provides flexibility and incentives for facilities to outperform the 0.9 lb/TBtu limit if it is possible. Also, the BACT review requirements in the existing and new rules may, ultimately, result in emission limits below 0.9 lb/TBtu.

Best Available Control Technology (BACT)

COMMENTS: A commentor stated that the rules should require stringent BACT for all new units.

RESPONSE TO COMMENTS: ARM 17.8.752, of the existing air quality permitting rules, already requires BACT for all new or modified emitting units. New Rule I(1)(a) also specifies that BACT for control of mercury emissions shall be installed, as required under ARM 17.8.752.

COMMENTS: SME commented that facilities for which permits have been issued prior to January 1, 2009, based on a BACT-analysis for mercury, should not

be required to apply for a permit modification under the department's revised proposed rules. SME, for example, potentially would be required to undergo the time and expense of a permit modification, and the department potentially would be required to process two permit modification requests within two and a half years, which is unnecessary and a waste of resources.

RESPONSE TO COMMENTS: Any facilities that have formally submitted information to the department in a permit application regarding a mercury control strategy can reference such information in subsequent submittals if the information remains relevant to the current application. The board is retaining the requirement in these rules to apply for a permit modification because significant changes can occur with respect to mercury control technologies and maturity over time. For example, SME initially submitted its air quality permit application on November 30, 2005. Much has changed regarding mercury control technology in the last 3-4 years, and the board expects further advancements between November 30, 2005, the date of SME's application, and January 1, 2009, the date under the new rules when applications for mercury emission limits and operational requirements are due.

COMMENTS: A commentor stated that the present BACT requirement in the Clean Air Act should be clarified further and not confused with "best affordable clean technology." ACI can be implemented immediately on existing plants and IGCC and wind generation can be required for all new plants.

RESPONSE TO COMMENTS: Clarification of the existing BACT requirement is outside the scope of this rulemaking proceeding.

COMMENTS: A commentor stated that coal-fired utilities are not only major sources of mercury, but also major sources of sulfur dioxide and nitrogen oxides. The board should define BACT for coal-fired boilers and put them on a schedule to meet BACT. At one time, it was thought that the useful life of a utility boiler was between 30 and 35 years. That has been stretched and almost 70% of the utility boilers currently operating in the U.S. are 30 years old or older. The rules should require that, when a plant is upgraded, the air pollution control equipment is upgraded to best available technology. If a boiler is too old to be renovated or controlled, it should be placed on a phase-out schedule for replacement with modern equipment.

RESPONSE TO COMMENTS: As discussed above, under the existing air quality rules, BACT is required for all new and modified emitting units. If a coal-fired boiler is modified, within the meaning of the air quality rules, BACT is required. However, BACT is a case-by-case determination, balancing several factors listed in the rules; it is not a specification of a particular emission limitation for every emitting unit within a particular source category. Specifying BACT for sulfur dioxide and nitrogen oxides and requiring phase-outs of EGUs are outside the scope of the current rulemaking proceeding.

Integrated Gasification Combined Cycle (IGCC) Technology

COMMENTS: A couple of commentors stated that IGCC technology should be used in any new coal-fired plants. New development can occur without a trading program if new plants use clean technologies such as IGCC, which can remove as much as 99% of mercury emissions.

COMMENTS: A commentor stated that, under the Clean Air Act, the most effective, clean pollution control that is available is required for a new power plant. At this time, IGCC plants set that standard, achieving reductions to about .2 to .5 pounds per trillion Btu.

COMMENTS: A commentor stated that any new coal plants should not be constructed unless they employ zero emission IGGC technology. The utilities should use the coal industry lobby to obtain tax incentives to help update our infrastructure to get it into the 21st century. Other states are adopting stringent requirements and Montana has the strongest constitutional guarantees to a clean and healthful environment. We need to set the example for the developing world.

RESPONSE TO COMMENTS IN "INTEGRATED GASIFICATION COMBINED CYCLE TECHNOLOGY (IGCC)" CATEGORY: The board wishes to encourage cleaner coal development, which includes IGCC. However, tax incentives and requiring all coal-fired units built in Montana to employ IGCC technology are outside the scope of this rulemaking, as is "redefining the source." Also, as discussed above, IGCC technology is not, at this time, "zero emission."

Alternative Emission Limits

COMMENTS: A commentor stated that the proposed rules would provide only an illusory mechanism to develop alternative mercury emission limits (AELs) because a facility would be eligible only after it is in noncompliance with federally enforceable emission limits, given that the proposed rules would be placed in Montana's State Implementation Plan (SIP).

COMMENTS: A commentor stated that technology selection must not be iterative and that the provisions for AELs should be replaced with a one-time selection of the best achievable technology. The fundamental fault with the current AEL concept is that each incremental installation is very costly and the effect is not necessarily additive. The cost, at least in the case of regulated utilities, will have a direct and significant impact on consumers. The board should pick one date by which a technology selection must me made and another date for installation and implement the results as a permit condition. Further equipment installation would be extremely costly and would not result in measurable reductions of mercury in the environment.

COMMENTS: A commentor stated that the BACT requirement and/or the mercury rules for new facilities should not result in a hard limit but should allow

facilities a demonstration period after which an appropriate limit could be set, as was incorporated into the settlement regarding the Hardin power plant. The rules should provide for an AEL that would provide a "soft landing" in the event that the limit is ultimately unachievable. Any AEL should be based on criteria that would promote advancement of control technology but that also would consider energy, economic, and environmental impacts, the type of control technology and boiler technology installed, and mercury and non-mercury coal constituents. Provisions for re-evaluation of an AEL should include a reasonable operating period, such as 10 years, and the rules should not arbitrarily terminate AELs in 2018 if performance criteria indicate that an AEL is necessary.

COMMENTS: A commentor stated that the board should adopt a "safety valve" of an AEL for those facilities that, despite the use of best available control efforts, cannot meet the 0.9 lb/TBtu standard on a consistent basis. A continuing AEL that does not expire in 2018, and limited interstate trading after 2015, should be allowed for those facilities that applied appropriate mercury control technology or techniques and that have demonstrated through emissions testing that the 0.9 lb/TBtu emissions level cannot be consistently achieved. These limited "safety valves" should be granted after a "best efforts" mercury control demonstration by the facility.

COMMENTS: A commentor stated that, because mercury control is rapidly evolving, facilities should be granted some regulatory flexibility, such as the ability to obtain AELs in the initial transition period until 2018. An EGU should be able to obtain an AEL if it complies with the requirements to install and operate control technology or boiler technology or follows practices projected to meet the mercury standard listed in the rules. The AEL should expire January 1, 2015, and extension of an AEL should be subject to a more rigorous showing that another AEL is necessary. The rules should require that an application for an extended AEL include the data and mercury control program associated with the existing AEL and available mercury control technologies. Only the same, or a more stringent, AEL should be granted in an extension, not a less stringent AEL. The rules should provide that, if an extended AEL is granted, it expires in 2018.

COMMENTS: A commentor stated that the commentor had never seen a rule, such as the first half of the department's rule, that provides more flexibility to an industry for meeting a clean air standard. AELs mean that companies install technology that, on paper, can meet a standard. But, in fact, if the company cannot meet that standard when equipment is up and running, the company is not penalized, and that is appropriate. Companies should be forced to do their best, try their hardest, and install the right technology to achieve the standard. If they fail despite their best efforts, with the oversight of the department making sure that their best efforts are in fact their best, then they should not be punished, but should receive a temporary AEL for a couple years while they try to figure out how they can achieve the limit.

RESPONSE TO COMMENTS IN "ALTERNATIVE EMISSION LIMITS" CATEGORY: The rules state that "If an application is submitted in accordance with [alternative emission limit application requirements], the failure of the owner or operator of the mercury-emitting generating unit to comply with the mercury emission limit in (1)(b) is not a violation of this rule or the permit until the department has issued its final decision on the application." The mercury rules will be submitted to EPA as a control plan, as required by CAMR, and will not be submitted to be included in the Montana state implementation plan. The board has clarified the criteria for obtaining an AEL. More emphasis has been placed on determining the appropriate mercury control strategy prior to the initial compliance date, and eligibility for obtaining an AEL is dependent on how well the facility complied with the provisions in its air quality permit specifying the mercury control strategy. The rules now list the required contents of an application for approval of a mercury control strategy as well as specifying the data an owner or operator must provide to apply for an AEL. If a facility has complied with the mercury control strategy approved by the department, obtaining an AEL based on the capability of that approved strategy will not be complicated. Specific BACT requirements apply later. For those facilities that cannot meet the applicable mercury emission limit and have been granted an AEL, an application for BACT review is due in 2014. For those facilities that meet the applicable mercury emission limit, an application for BACT review is due 10 years after issuance of the final permit establishing the facility's mercury control strategy. Every facility will then be subject to a continuing BACT review every ten years.

Soft Landing/Safety Valve

COMMENTS: Several commentors stated that the rules should include provision for a "soft landing" for plants that cannot meet the required standards.

COMMENTS: A commentor stated that EGUs should have a safety valve/AEL/soft landing that does not end. Considering the lack of maturity of mercury control technology, "hard limits," would negatively affect the ability to obtain financing for new coal facilities, possibly, making the projects uneconomical.

COMMENTS: A commentor stated that the challenge of regulation is to not threaten generation but provide the opportunity to take advantage of technology as it improves. One way to do this is to account for plant-by-plant variations and costs. A fabric filter provides the most predictable performance for mercury control, but a wet particulate scrubber probably is the most challenging application for mercury control. Providing economic incentives for early compliance would offset some of the risks of new technology. Many problems won't be discovered and addressed until equipment is installed. By setting lower achievable earlier standards the board would establish the potential for greater reductions later. Unlike other air pollution control equipment, an activated carbon injection (ACI) system designed for 70% control looks exactly the same as an ACI system for 90% control. We do not know exactly what the performance curve is going to look like for every site. The rules have to be flexible because there is not much flexibility in dealing with the laws of

physics and it is necessary to account for differences in costs and performance. Pennsylvania has a "soft landing" provision, so that if a facility installs the right equipment to meet the requirements of the regulation, and it does not meet the expected performance, the facility is considered to be in compliance. Minnesota has a large number of wet particulate scrubbers, and it accounted for the performance of this technology by establishing a two-phase program in which the units with wet scrubbers have a longer time to install different equipment. Banking provisions in Georgia and New Hampshire regulations encourage early reductions and result in controlling mercury much sooner than with a three to four-year implementation period.

COMMENTS: A commentor stated that the rules should incorporate a mechanism for developing requirements that would be implemented in three, four, or five years based on the fact that the technology has been improving over time and is likely to continue to improve.

COMMENTS: A commentor stated that, regarding the concept of a soft landing, the board already has such a regulatory mechanism in the BACT requirement, which already applies to new facilities.

RESPONSE TO COMMENTS IN "SOFT LANDINGS/SAFETY VALVE" CATEGORY: The board has incorporated a "soft landing" provision in the rules, under which the owner or operator of an EGU may apply to the department for an additional alternative emission limit, if necessary and if the EGU has complied with the requirements listed in the rule to receive an alternative emission limit. The rules are flexible and not prescriptive with respect to control technology to address the fact that mercury control is not a "one size fits all" solution. The trading provisions of the rule provide economic incentives to reduce mercury emissions below the limitations in the rules.

New Facility Testing

COMMENTS: SME commented that the board should consider including the opportunity for new facility testing. A test period of six months to one year is needed to test any commercial-grade facility implementing the best available control technology, to accurately determine actual performance characteristics. SME wants to try to test halogenated sorbents in a field operation to determine how effective SME can be in its capture rates. The standards should be set on the basis of field tests, using Montana coal, burning it with the best available control technology, sharing the results with the department, and sharing the scientific basis for setting the standards.

RESPONSE TO COMMENTS: Under these mercury rules, SME will have the opportunity, during the application process for the mercury emission limitation and control strategy, to compile and share with the department the basis for the proposed mercury control strategy for the Highwood Generating Station. During the first 12 months of operation under the mercury rules, all facilities will be optimizing

their mercury control strategies. The board understands that a new facility probably will have more variation in emission control initially than an existing facility, not only for mercury but for all pollutants, as the process goes through the shakedown period. To address this variability, the rules include provision for the owner or operator, in applying for an AEL, to note data that is not representative of normal operation or that represents unusual circumstances.

Subcategorization by Coal Type

COMMENTS: Several commentors stated that the rules should distinguish between lignite and subbituminous coal.

COMMENTS: A commentor stated that, to require a facility burning lignite to meet the same standard as for subbituminous coal would put the vast majority of Montana's coal resource at a significant competitive disadvantage. The other commentor stated that the department adequately addressed the distinction in its Proposed Alternative Rules.

COMMENTS: MDU commented that, if the board adopts firm limits, there should be higher allowances and limits for lignite.

COMMENTS: MDU commented that, in its experience as operator of a lignite-fired unit, the quality of lignite can be quite poor and inconsistent, and, occasionally, it is necessary to supplement the coal fired in its boilers with other coal, such as sub-bituminous, with lower moisture content, lower hardness, lower sodium, or higher Btu value. This supplement of higher quality coal may be as high as 30%. The only equitable way to resolve establishment of an emission limit for a plant that uses both lignite and subbituminous coals is to prorate the limit and allowances based on the amount of each coal used over a reasonable averaging period. Due to the long-term variability of lignite, this averaging period should not be shorter than five years, however, such a prorating system likely would prove to be quite unwieldy to manage. A simper, and still equitable, solution would be to use 50% as the dividing point and distinguish the coals using the following language: "…for a mercury-emitting generating unit that combusts over 50% lignite…" and "…for a mercury-emitting generating unit that does not combust over 50% lignite…"

COMMENTS: A commentor stated that the rules should provide long-term predictability for the regulated facilities, and, therefore, should focus on achievement of the emission limits necessary to comply with the 2018 CAMR mercury budget of 298 pounds. Including existing EGUs and EGUs either permitted or in the permitting process, with heat input rates based on maximum design heat input for each unit, the limit that would enable compliance with the 2018 CAMR mercury budget of 298 pounds is 0.9 lb/TBtu, on a rolling 12-month basis. As lignite coal historically has been more difficult to control than non-lignite coal, the appropriate limit for the lignite-burning EGUs would be 2.4 times (using the EPA-derived factor) the 0.9 lb/TBtu rate, or 2.16 lb/TBtu.

COMMENTS: A commentor stated that the rules should recognize the different needs of existing, currently proposed, and new facilities, but eventually lead to a level playing field. One way to do that would be with allocation distribution under a backstop trading scheme on top of emission limits and control equipment requirements. The preferred allocation scheme starting in 2015 would be as follows (based on the following emissions rate multiplied by the maximum design heat input of the unit):

2.4 lb/TBtu for facilities that commenced commercial operation prior to January 1, 2001, and do not combust lignite;
5.76 lb/TBtu for facilities that commenced commercial operation prior to January 1, 2001, and combust lignite;
1.5 lb/TBtu for facilities that did not commence commercial operation prior to January 1, 2001, and do not combust lignite; and
3.6 lb/TBtu for facilities that did not commence commercial operation prior to January 1, 2001 and combust lignite.

The differences between the lignite and non-lignite allocations reflect the 2.4 EPA factor for the different level of difficulty of control between subbituminous and lignite coals. Starting in 2015, the preferred allocation scheme would be 0.9 lb/TBtu for facilities that do not combust lignite; and 2.16 lb/TBtu for facilities that combust lignite.

COMMENTS: A commentor stated that the department should investigate the technology that has been claimed to allow lignite coal to burn as “cleanly” as non-lignite and that, if this is true, the restrictions in the rules should be just as firm for both types.

COMMENTS: A commentor stated that, for PPL to try to burn lignite at the Colstrip facility, there would need to be modifications to the boilers.

RESPONSE TO COMMENTS IN “SUBCATEGORIZATION BY COAL TYPE” CATEGORY – OPTION 1: The board agrees that subcategorization by coal type is necessary, due to the differences in controlling mercury from lignite and subbituminous combusting sources. To further address this, the board added the following definition to the rules: “(13) "Mercury-emitting generating unit that combusts lignite" means any mercury-emitting generating unit that combusts lignite in an amount equal to or greater than 75% of its total heat input, calculated for the prior calendar year on a calendar year basis.” Also, the board determined the following mercury emission limitations were appropriate: 1.5 pounds of mercury per trillion Btu, calculated as a rolling 12-month average, for mercury-emitting generating units that combust lignite; and 0.9 pounds of mercury per trillion Btu, calculated as a rolling 12-month average, for all other mercury-emitting generating units. The board used a similar conversion factor in the provisions for alternative mercury emission limits, which state as follows:

"An alternative mercury emission limit established in a Montana air quality permit must not exceed:

(i) 4.8 pounds of mercury per trillion Btu, calculated as a rolling 12-month average, for a mercury-emitting generating unit that combusts lignite and commenced commercial operation prior to October 1, 2006;

(ii) 3.6 pounds of mercury per trillion Btu, calculated as a rolling 12-month average, for a mercury-emitting generating unit that combusts lignite and commenced commercial operation on or after October 1, 2006;

(iii) 2.4 pounds of mercury per trillion Btu, calculated as a rolling 12-month average, for a mercury-emitting generating unit that does not combust lignite and commenced commercial operation prior to October 1, 2006; or

(iv) 1.5 pounds of mercury per trillion Btu, calculated as a rolling 12-month average, for all other mercury-emitting generating units that do not combust lignite." Starting in 2018, "The department shall establish a revised alternative mercury emission limit in a Montana air quality permit that will become effective beginning January 1, 2018. A revised alternative mercury emission limit must not exceed:

(a) 2.8 pounds of mercury per trillion Btu, calculated as a rolling 12-month average, for a mercury-emitting generating unit that combusts lignite; or

(b) 1.2 pounds of mercury per trillion Btu, calculated as a rolling 12-month average, for all other mercury-emitting generating units."

From 2010-2017, emission allowances would be allocated based on the target mercury emission limitations. Starting in 2018, an equation, based on total maximum design heat input, would be used to allocate Montana's mercury allowance budget. Therefore, starting in 2018, owners and operators combusting lignite would have no advantage regarding allocations.

RESPONSE TO COMMENTS IN "SUBCATEGORIZATION BY COAL TYPE" CATEGORY – OPTION 2: The board does not agree that higher mercury emission limits should apply to EGUs combusting lignite because lignite is an inherently dirtier fuel. Under the final rules, all EGUs in Montana will be subject to the same mercury emission limit.

12-Month Rolling Average Emission Limits

COMMENTS: A commentor stated that a 12-month rolling average is an incredibly flexible and generous provision. Every coal seam contains different constituents, and a 12-month rolling average emission limit accounts for variability and allows a company that has a high level of mercury in one shipment of coal to moderate that with other coal shipments during the year. Regarding trading within plants, if PPL is having difficulty at its four Colstrip units meeting its strict mercury emission limit, three of those units can work really hard. If they average the emissions of those four units, the fourth unit does not have to do quite as good of a job, instead of being penalized for a particularly difficult unit.

RESPONSE TO COMMENTS: A 12-month rolling average is consistent with the averaging period applicable to the emission limits under CAMR for new emission

sources, and is appropriate, given the variability of mercury in coal. The board also concurs that allowing averaging of emissions between emitting units within a facility is appropriate to offset variability factors that can be magnified when more than one emitting unit is located within one facility (coal quality, for example).

Allocation Scheme

COMMENTS: A commentor stated that the proposed rules should treat new and existing facilities the same with respect to allowances. The board should not make material changes to the allocation plan in the proposed rules that could have an adverse effect on existing and planned facilities.

COMMENTS: A commentor stated that the department's proposed allocation of the majority of the remaining 93 pounds of mercury emissions to new coal plants is flawed or premature. The department has overstated the amount of allowances needed by the Hardin Generating Station. An application has been submitted to the Department of Energy for a grant for the Hardin plant that requires plants to aim for 90% reduction in mercury emissions. There have been many rumors that Bull Mountain Development Company is changing its proposal for the Roundup Power Project from a pulverized coal plant to a gasification plant. Bull Mountain has said in the press that it intends to build an IGCC plant and convert coal to liquids. It is inappropriate and premature to allocate 52 of the remaining 93 pounds of mercury to the Roundup Power Project when Bull Mountain is telling the press that it is going to build a different plant and, therefore, will not need any of the 93 pounds. Also, Bull Mountain's permit has expired. The legal process to settle this dispute is ongoing and its outcome remains unclear. Regarding the SME plant, it is presumptuous to allocate credits to a facility that is in the middle of the permitting process. Due to the high level of coal-fired power plant speculation in Montana and across the west, it would be premature and presumptuous to count any plant that has not been constructed. Allocations should be assumed only when a plant is operational.

RESPONSE TO COMMENTS IN "ALLOCATION SCHEME" CATEGORY: The board determined that mercury emission allocations should be the same for new and existing EGUs. The allocations for 2010-2017 are based on 0.9 lb/TBtu for non-lignite combusting facilities and 1.5 lb/TBtu for lignite combustors, regardless of the age of the facility. In 2018, the playing field is leveled further by eliminating the difference in allocations between lignite and non-lignite combustors with the use of an equation based on total maximum design heat input. The rules do not allocate emission allowances to facilities by name. The proposals considered prior to final action included different scenarios that included the current EGU universe in Montana based on the facilities that had air quality permits or that were currently in the air permitting process. Under New Rule II, the owner or operator of any facility that has not commenced commercial operation prior to October 1, 2006, would have to request allocations based on a process outlined in the rule. For example, if the Roundup Power Project has not commenced commercial operation prior to October 1, 2006, it will never receive any allocations. Also, if commencement of commercial operation for a newly constructed EGU is delayed, any allowances, for the time

between projected and actual commencement of commercial operation, that had been allocated by the department to the EGU would have to be surrendered to the department. The rule would not allow permitted facilities to speculate using mercury allowances.

Timeframes

COMMENTS: Several commentors stated that the timeframe for implementing the rules is too lenient to protect public health, due to the toxic nature of mercury. Commentors suggested 2008 or 2009, to better protect public health and allow people to eat fish.

RESPONSE TO COMMENTS: If a MACT standard to control mercury emissions from EGUs had been promulgated by EPA, the time from the date of the final rule to the compliance date probably would have been three years, based on previous MACT rules. Three years is a reasonable amount of time to allow the owners and operators of EGUs to make the necessary investments in control equipment, as well as to have that control equipment installed and operating. From the time of final action in this rulemaking proceeding, in October of 2006, to the starting compliance date of January 1, 2010, is just over three years. In order to provide the maximum mercury control for EGUs in Montana, the rules must allow enough flexibility and time to establish and install the best mercury control strategy for each individual facility. Providing less than three years could force owners and operators to select the mercury control that is most easily available and easiest to install, instead of selecting a strategy that would be most appropriate for the facility and most protective of public health.

Disposal of Captured Mercury

COMMENTS: A commentor stated that mercury captured on a sorbent or in the ash seems to be very stable and effectively removed from the environment. The one negative impact that has been seen is that, for a facility that sells the ash for use in concrete, the activated carbon absorbs some of the chemicals used in making concrete. Over the last several years, technologies have emerged to deal with this, and EPRI has a couple of configurations that allow use of activated carbon and sale of the ash.

COMMENTS: Two commentors stated that the board should consider, and the rules should address, what will happen to mercury that has been removed from coal and how it will be stabilized so that it is inert. It is necessary to ensure that people are not drinking the mercury that they do not want to breathe because it is a hazardous substance and it must be dealt with as a hazardous substance, otherwise, cleaning up the air will result in poisoning of the water.

RESPONSE TO COMMENTS IN "DISPOSAL OF CAPTURED MERCURY" CATEGORY: When the owners and operators of EGUs submit their applications for the mercury emission limit and mercury control strategy and subsequent mercury

BACT determinations, disposal issues, and issues regarding ash sales, if applicable, will be addressed, as they would be for any other air quality permit control technology analysis. In determining appropriate control technologies, and in evaluating environmental impacts pursuant to any analysis required by the Montana Environmental Policy Act, the department will consider the environmental impacts of disposal of captured mercury in addition to any solid or hazardous waste requirements that may apply.

Environmental Justice

COMMENTS: A commentor stated that the board should consider the environmental justice issue of native populations being disproportionately affected by mercury emissions. The board should review where native people are located in relation to the mercury sources.

RESPONSE TO COMMENTS IN "ENVIRONMENTAL JUSTICE" CATEGORY: The board is aware of the proximity of native populations (and other populations that may be affected by environmental justice) to several of the existing and proposed EGUs in Montana. Evidence in the record (and in the preamble to EPA's CAMR) points to a potential increased risk of mercury contamination in native populations due to subsistence fishing. The requirement that each existing and new EGU in Montana employ a mercury control strategy, and comply with stringent emission limits, would minimize any local impacts from those EGUs beyond the reductions that would be achieved under EPA's model cap and trade rule.

Implementation of the Constitutional Right to a Clean and Healthful Environment

COMMENTS: A commentor stated that the Montana Constitution guarantees the right to a clean and healthful environment. Strengthening the state's mercury laws will bring the laws into compliance with the constitution, and it also will protect the health of all Montanans – both the born and the yet-to-be born.

COMMENTS: A commentor stated that the board should adopt strict, explicit mercury rules. Clean air is among Montana's most significant assets, and Montanans are very fortunate to be protected by the Montana Constitution. It would be tragic to permit mercury emissions to further harm our beautiful state. The department's proposal would allow complete agency discretion regarding whether a company is doing all it can to control mercury, and this is too big a risk for the public to take. The board should implement Montana's constitutional provisions for a clean and healthful environment by keeping mercury emissions out of our air.

RESPONSE TO COMMENTS IN "IMPLEMENTATION OF THE CONSTITUTIONAL RIGHT TO A CLEAN AND HEALTHFUL ENVIRONMENT" CATEGORY: The constitutional right to a clean and healthful environment is implemented through Montana's environmental laws, including the Clean Air Act of Montana, and these mercury control rules are being adopted pursuant to the Clean Air Act of Montana. The final rules include stringent emission limits, specific criteria

regarding the department's review of applications for alternate mercury emission limits, establishment of alternate mercury emission limits, including maximum alternative emission limits, and requirements for EGUs to implement BACT. The board believes that these rules will protect public health and the environment and protect the constitutional right to a clean and healthful environment.

Harm to Economic Development and Proposed EGUs

COMMENTS: Several commentors stated that the proposed rules would unnecessarily harm economic development in the state.

COMMENTS (23.a): A representative of an economic development group commented that the perception in the private sector is that Montana is closed for business. The state will not grow if more businesses leave or locate in other states, if youth do not want to work in burger establishments or clean motel rooms, and if youth continue to leave the state for higher paying jobs in Wyoming and North Dakota. The board should balance economic growth with environmental care. Natural resource development is a great opportunity for Montana, and the board should not prevent responsible energy development.

COMMENTS: A commentor stated that capital investment by industry is necessary to support schools, healthcare, and public infrastructure. Montana should encourage maximization of alternative energy sources, including conservation, but alternative energy sources cannot meet the market demand for energy. Montana, particularly eastern Montana, has the opportunity to make energy from all sources the largest and most lucrative export commodity, but that cannot happen if Montana continues to create barriers to business development.

COMMENTS: Commentors stated that hundreds or thousands of Montanans will lose their jobs if the board adopts rules that are more stringent than CAMR.

COMMENTS: Commentors stated that the rules should not put Montana at an economic disadvantage compared to neighboring states that appear to be adopting CAMR. Montana needs good jobs and an increased tax base, and a full cap and trade program would enhance Montana's ability to attract investment money necessary to develop the state's vast coal resources.

COMMENTS (23.a): A commentor stated that the proposed rules would unnecessarily harm the development of new coal-fired EGUs by imposing limits that are below those technically achievable on a consistent basis. The proposal also would unduly burden future operation of existing facilities because of substantial uncertainty as to whether such units can meet the proposed limits.

COMMENTS: A commentor stated that the proposed rules are not workable, will create considerable financial and technical hardships for companies operating in Montana, and will discourage other companies from investing in coal-based enterprises in the state. The ultimate result would be higher electricity prices for

Montana customers and loss of potential jobs and tax revenues to the state, with no measurable health benefits beyond those expected to be realized by implementation of CAMR.

COMMENTS: A commentor stated that any mercury rule stronger than CAMR will stop development in Montana, including the currently proposed Great Northern Nelson Creek Power Project, and pose a risk to existing power generators.

COMMENTS (23.a): Great Northern commented that lenders will not lend money for a new coal-fired project that will become subject to a limit in the future that cannot be met today with existing technology, due to the potential that the project may not be able to meet the future limit. If Great Northern cannot obtain a guarantee by 2008 for mercury emission limits, there will be no funding, and the Nelson Creek Power Project will not be built.

COMMENTS: A commentor stated that economic development efforts in the state are under-funded and the board should not make decisions that will increase that hardship.

COMMENTS: A commentor stated that the board should be very careful in making rules that will affect the ability to build the SME Highwood Generating Station and any other plants in Montana.

COMMENTS: A commentor stated that McCone County is the site of Great Northern's proposed 500-MW Nelson Creek Power Project that would use the most advanced, reliable, clean technology and that Great Northern has stated that the proposed rules would stop development of the project and any other new development of Montana coal reserves. The county needs the project, and the majority of people in the county and surrounding counties support this development. Montana should not shut down the coal-fired electrical industry but should allow it to grow and create new technology to improve our lives, our communities, and our economies. It does no good to shut down coal development in Montana and then have coal plants in Canada or elsewhere with fewer environmental controls sell their electricity to the U.S. If Montana has greater regulation and a much higher cost of operation than surrounding states and countries, businesses will not locate here. McCone County and eastern Montana want and need responsible energy development.

COMMENTS: A commentor stated that McCone County is one of the poorest counties in the state but has large quantities of coal reserves that could be developed. Limiting this development with regulations that are more stringent than federal regulations would not serve any purpose but would limit the economic growth of eastern Montana.

COMMENTS: A commentor stated that, with the technology today, a coal-fired power plant can be developed and we can still have quality air and water. We

should use our natural resources so that consumers can have affordable electricity, to stimulate the economy, and to help keep our young people in Montana.

COMMENTS: A commentor stated that it is tough watching little communities in eastern Montana die for lack of jobs and opportunities. This will continue, and there is a need for coal-fired generating power. While the governor is touting development, his agencies are drafting rules to stop coal development. The company developing a plant near the commentor, the Nelson Creek Project, a coal-fired generating plant near Circle, told the commentor they could not build the plant if the proposed rules were adopted. The rules need to be workable to allow coal development.

COMMENTS: A commentor stated that no other industry in Montana's history has made such a significant positive impact on the economy of our state as the coal industry has. The rules need to allow for responsible development of Montana coal reserves and power plants rather than prohibit them or provide other states an unfair advantage. Montana's future needs a balance of the economy and the environment. Mandated imbalances in either direction hurt everyone. Natural resource development is an opportunity in Montana right now, and the board should not kill this opportunity.

COMMENTS: Several commentors stated that protection of public health is more important than economic development or that the proposed rules would not harm economic development.

COMMENTS: A commentor stated that some things in life are more important than jobs and the economy, such as health and life itself. Trading mercury emissions is unethical. It may be deemed legal, but it is morally wrong to inflict such a widespread and long-lasting health hazard with the capacity to cause a multitude of known health problems affecting hundreds of thousands of lives, not only human, but animal lives as well. This includes not only those who live within the vicinity of mercury emissions at the present time, but foreseeable generations to come. The board should not allow monetary or political reasons to be the bottom line in making this momentous decision, which we will be living with for generations to come.

COMMENTS: A labor organization stated that it supports standards that are protective of public health because it believes that Montana can go beyond the federal standard. This will create more new jobs in Montana because laborers across the state will install the technology.

COMMENTS (23.b): A commentor stated that Montana can meet its 298 lb. cap without impeding future coal plant development. The commentor stated that, according to the department, a 0.9 lb/TBtu mercury emission limit would result in 205 pounds of mercury per year being emitted by existing coal plants. That would leave 93 pounds for new development. An allowance of 93 pounds of mercury for new plants would allow for six to 16 new coal-fired IGCC plants. The board should consider the capabilities of IGCC.

COMMENTS (23.c): A commentor stated that Montana power plants generate more power than Montana needs, and Montana exports power, so new power plants in Montana are not necessary. Montana can have economic development and solve the country's power shortage problems by producing coal and shipping it out of state to the states that need to burn it. If they burn it, they will be more careful with it, and they will learn how to produce power with less environmental degradation.

RESPONSE TO COMMENTS IN "HARM TO ECONOMIC DEVELOPMENT AND PROPOSED EGUS" CATEGORY: The board's final rules will not prevent economic development related to coal-fired power production. As with any other pollutant, under existing rules and these new rules, new EGUs must use Best Available Control Technology for mercury emissions. Also, they would be subject to the same standards as existing EGUs regarding mercury emission limits and mercury emission control requirements. However, the inclusion of provisions for trading mercury emissions, and the board's emission allowance system, under which more emission allowances will be reserved for new facilities than under CAMR's model allowance system, will allow for growth in the energy sector, but the mercury emission limits and control requirements will limit growth to clean EGUs that comply with Montana standards.

23.a The board received comments from both sides regarding balancing responsible energy development with environmental protection, and there is information in the record as to the specific rule requirements that would or would not allow new development, such as the Southern Montana Electric or Great Northern Power projects, to occur. The final rules provide strict mercury limitations and control requirements, for responsible development, while allowing flexibility if mercury control strategies do not perform as predicted and while providing enough flexibility to ensure that financing of new projects would not be hindered. The board does not believe the emission limits specified in these rules are unachievable on a consistent basis, especially for new facilities and given the ability of both existing and new EGUs to receive an alternative emission limit if the facility's mercury emission control strategy does not perform as expected. Also, participation in the emissions trading allowed under these rules will avoid limiting development to the Montana mercury budget established by EPA under CAMR, and also will provide incentives to reduce mercury emissions below the applicable emissions limitations.

23.b It is the board's intention that these mercury rules will promote development of cleaner coal technologies, and IGCC falls into that category.

23.c Any decisions as to whether new power plants in Montana are necessary or not and as to whether it would be wiser to promote shipping coal out of state rather than combusting it in state are policy decisions that are outside the authority of the board.

Economic Impacts to Ratepayers

COMMENTS: Several commentors stated that the proposed rules would increase the costs to power consumers.

COMMENTS: A commentor stated that there is no known, proven technology that can reduce mercury emissions at Montana power plants burning Montana coal to the level mandated in the proposed rules and that, therefore, it is impossible to predict the economic impacts to the companies, and ratepayers, etc.

COMMENTS: A commentor stated that the proposed rules would negatively impact ratepayers, industry, unions, and communities, with little or no demonstrable benefit to the people of Montana, because reducing power plant mercury emissions would have no more than a negligible impact on mercury in the food chain.

COMMENTS: A commentor stated that the costs to comply with the proposed rules would be considerable and that regulators will not disallow pass-through of costs for legally-required additional pollution controls.

COMMENTS: MDU commented that the costs to consumers are higher as a result of plants having to comply with more stringent rules. For regulated utilities, such as MDU, costs associated with a more stringent state rule most likely would have to be borne solely by the ratepayers of the state issuing that rule.

COMMENTS: SME commented that the cost to install ACI for the SME Highwood Generating Station would be about $35 million. Including operation and maintenance costs, the operating costs on an annual basis would be more than $1 million per year. Over the life of the project, this cost would show up in power rates.

COMMENTS: A commentor stated that the board should balance the responsibility for the health of Montanans with the cost that the rules would have for every electricity ratepayer in Montana.

COMMENTS: A commentor stated that, because mercury is a global issue, Montana electricity ratepayers would be paying for a benefit that they would not receive.

COMMENTS: A couple of commentors stated that PPL will not pass on the cost of compliance to ratepayers.

COMMENTS: A commentor stated that mercury regulation beyond cap-and-trade won't harm ratepayers but would create a level playing field among all companies in Montana, especially because PPL is the only company that may be directly spending significant amounts to comply with the rules. Due to deregulation, PPL bases its rates on what the market will bear, and it is not able to recover the costs of investments in pollution control as it could have done as a regulated entity.

PPL will soon discover that, to compete nationally, it will need to produce clean energy.

COMMENTS: A commentor stated that PPL charges market rates, and will charge as much as it can. A mercury rule will only take away some of its profits.

COMMENTS: A commentor stated that the commentor is willing to pay whatever it takes to reduce mercury so that people are not subsidizing the coal industry with the health of our children or with the health of the children in China or wherever the mercury eventually is deposited. The governor of California and governors of other states are saying that they don't want to take power unless it is clean power. They could say that, unless Montana meets their standards, they are not going to take our power. So Montana should develop standards that are going to be acceptable in this industry. Also, the utility companies were not at all reluctant to drive up the costs for Montana consumers for their own profits, but they are reluctant to drive the costs up to protect the health of the world's children.

COMMENTS: A commentor stated that the cost of any requirement for an upgrade of the Colstrip units will be shared on a pro rata basis, based on investment participation, and that 70% of the responsibility for anything related to Colstrip upgrades will be borne by regional utilities and regional customers. The commissioners in Washington and Oregon have no interest in exporting the impacts associated with their power use to Montana, North Dakota, or Minnesota or downstream states. They are very progressive in terms of recognizing their responsibility as consumers and as state agencies to bear the real cost of their electric consumption. Based on the Federal Energy Regulatory Commission decision that it did not have monopoly power, which constituted a $40 million gift to PPL, PPL is well-positioned to step forward and accept its responsibility for mercury impacts and any requirements that the board may place on PPL’s outdated, 25-year-old technology. That is a depreciated plant, and the cost has declined over time with depreciation. The suggestion that there should not be some level of upgrade of pollution control is not valid. Montana Dakota Utilities (MDU) has expressed concerns, on behalf of its customers, of course, about the impacts of a mercury rule. MDU has not had a rate case in Montana since 1986, 20 years ago. MDU is doing very well and has no interest in exposing itself to a rate case in Montana. The dominant theme in consumers' complaints have not been related to the cost of environmental protection. They have been related to matters such as excessive profits, executive compensation, inefficiencies, and deregulation. PPL will charge whatever the market will bear, which is why it is doing so well. There is not a regulatory agency to allow PPL to build in the cost for this new upgrade, but it also does not have the regulated cost basis that the other four utilities have.

COMMENTS: The same commentor stated that, if the board does not ensure that projects incorporate the best available technology, this would distort the economics of project alternatives. The board should ensure that the real costs are built into the project so that choices can be made, otherwise choices are distorted in favor of old and outdated technologies, relatively dirty fuel, and relatively dirty plants.

There is a great impetus and a lot of economic interest in developing coal, and if we do not address these issues right now, we are missing a golden opportunity and locking ourselves into a bad prospective future. All of the costs that are imposed on society should be built into the projects so that good economic decisions can be made and consumers face the real cost of their consumption. That way, they can choose alternatives that may be less damaging. Let the PSC take the heat for the rates. That is what we are getting paid for. If the board just deals with the fundamental mercury issue, then everybody will be well-served because that is where the board's expertise is.

OMMENTS: A commentor stated that technology currently is available that would reduce mercury emissions from coal-fired EGUs by 90%. When passed on to consumers, the cost per household to implement stronger mercury controls than those promulgated by EPA would amount to less than $1.50 per month.

RESPONSE TO COMMENTS IN "ECONOMIC IMPACTS TO RATEPAYERS" CATEGORY: Implementation of any mercury control strategy in Montana, including implementation of EPA's cap and trade provisions that EPA provided as an approvable plan under CAMR, would result in costs to the owners and operators of EGUs. NESCAUM, the Clean Air Association of the Northeast States, estimated that mercury controls more stringent than the minimum controls required to comply with CAMR, based on more stringent rules promulgated in that region, would result in a cost to the average ratepayer of approximately $0.70 per month. Consumers of electricity should take responsibility for the impacts of that power production, as should consumers of any other product. Pollution control for any pollutant and for any regulated industry is costly; however, the owners and operators of EGUs, and their customers, are responsible for the costs of the pollution that is created by those units in producing power. The Montana Public Service Commission, and any other similar commissions for states or regions that buy Montana power, will have the authority to review pollution control costs for regulated customers. For those EGUs that operate in a non-regulated market, their owners are able to charge what the market will bear and the market will determine whether the owners can pass on the costs of pollution control to consumers, as businesses do with other costs of doing business. Regarding emission trading provisions, by requiring mercury pollution control on every EGU in Montana, the final rules shift the impact of those costs from potential allowance buying to actual pollution control.

Reliance on Ability to Later Amend Rules

COMMENTS: Great Northern commented that the board should not rely upon the ability to come back and conduct later rulemaking to correct any errors in the rules, because errors would be fatal for the Great Northern Nelson Creek Project. For example, a correction in 2010 would be too late for Great Northern to meet its 2013 timeframe.

RESPONSE TO COMMENTS: Although the board reserves the right to make corrections or changes to any rules it adopts, the final mercury control rules were

adopted with no intention by the board of revisiting the issues to "fix" potential perceived problems.

House Bill 521

COMMENTS: Several commentors stated that the proposed rules could not be adopted, pursuant to Section 75-2-207, MCA, of the Clean Air Act of Montana, which implements House Bill 521 from the 1995 Montana Legislative Session, because the criteria for adoption of a state rule that is more stringent than a comparable federal regulation or guideline, CAMR, cannot be met. There is no evidence in the record, and the board cannot show, that the proposed rule "protects public health or the environment, " "can mitigate harm to the public health or the environment," and "is achievable with current technology."

COMMENTS: A commentor stated that most of the experience with mercury control technologies is based only on short-term testing, sometimes of 30 days or less. This is not enough time to determine efficiency rates, or effects on existing plant equipment, etc. True estimates of operation and maintenance costs have not been, and cannot be, ascertained over the short-term. There are no peer-reviewed scientific studies contained in the record that would form the basis for the board to conclude that anything other than CAMR would accomplish the objectives.

RESPONSE TO COMMENTS IN "HOUSE BILL 521" CATEGORY: Section 75-2-207, MCA, of the Clean Air Act of Montana, implements House Bill 521 from the 1995 Montana Legislature. The statute states that the board or department may adopt a rule to implement the Clean Air Act that is more stringent than comparable federal regulations or guidelines only if:

a public hearing is held;
public comment is allowed; and
the board or department makes a written finding after the public hearing and comment period that is based on evidence in the record that the state rule:
protects public health or the environment;
can mitigate harm to public health or the environment; and
is achievable with current technology.

While EPA has promulgated CAMR to regulate mercury emissions from EGUs, it is not clear that CAMR is comparable to the mercury control rules adopted by the board, for reasons discussed in a separate written finding that is available from the board. In any event, as also discussed in the separate written finding, the board held a public hearing concerning adoption of mercury control rules, the board allowed public comment on the rules, and the rules protect public health and the environment, can mitigate harm to public health and the environment, and are achievable with current technology.

Montana Environmental Policy Act (MEPA)

COMMENTS: Several commentors stated that the board is required to comply with MEPA for this rulemaking and has not done so.

COMMENTS: A commentor stated that the board's mercury rulemaking process is not the functional and legal equivalent of the MEPA process. A process that is "functionally equivalent" would entail at least the board independently investigating the issues relating to regulating mercury emissions, instead of relying on the analyses of interested third parties.

COMMENTS: A commentor stated that the fly ash from the Corette plant is sold for use in concrete. Varying levels of mercury could be contained in the fly ash used in the manufacture of concrete, which is an issue requiring further assessment under MEPA.

COMMENTS: A commentor stated that this rulemaking is not subject to MEPA because the rulemaking does not constitute an action on the part of a state agency. The rules would require the owner or operator of an EGU that is subject to the rules to apply for a permit. Issuance of a permit would constitute an action, and would be subject to MEPA. Also, in issuing a permit, the department would be able to conduct a MEPA analysis for the particular EGU and situation in question.

RESPONSE TO COMMENTS IN "MONTANA ENVIRONMENTAL POLICY ACT (MEPA)" CATEGORY: The board does not believe that MEPA applies to this rulemaking proceeding. The mercury control rules being adopted by the board would be implemented through air quality permitting procedures that include submission of an application to the department for a permit establishing the applicable mercury emission limit and any necessary operational requirements, department review of the application, preparation by the department of an environmental review document pursuant to MEPA, and issuance of a draft permit and draft environmental review document for public review prior to the department's decision on the application. Therefore, the board believes that issuance of a permit required under these rules, rather than adoption of the rules, would be the action of state government, within the meaning of MEPA, triggering the environmental review requirement. Also, an environmental analysis or environmental impact statement regarding this rulemaking would be a programmatic document. Pursuant to the MEPA rules, programmatic environmental analyses and programmatic environmental impact statements concerning regulatory decisions are discretionary with the agency. The board believes that this rulemaking proceeding has included analyses of impacts and public participation procedures that were the functional equivalent of an environmental review pursuant to MEPA. The board does not believe that any further environmental review is required for this rulemaking, pursuant to MEPA.

Economic Impact Statement

COMMENTS: A member of the Montana Legislature commented that a petition from legislators would be submitted to require the board to prepare an economic impact statement on the proposed rules. Subsequently, a petition requesting preparation of an economic impact statement was submitted to the board.

RESPONSE TO COMMENTS IN "ECONOMIC IMPACT STATEMENT" CATEGORY: An economic impact statement titled "Benefits and Costs of Various Options for Meeting CAMR through Control of Mercury on Electrical Generating Units" has been prepared in response to the request received from the Montana legislators. The report was made available on the department's website prior to the board's September 15, 2006, meeting.

Reasonable Necessity for Rules

COMMENTS: Several commentors stated that the proposed rulemaking does not fulfill the mandatory procedural requirement of Section 2-4-305(6), MCA, of the Montana Administrative Procedure Act (MAPA), to provide an adequate statement of reasonable necessity for the rules and that any rule more stringent than CAMR is not "reasonably necessary."

COMMENTS: A commentor stated that the board cannot meet the requirements of the Clean Air Act of Montana to establish that the restrictions in the proposed rules beyond the requirements of CAMR are "reasonably necessary" to carry out the purpose of the act, which is to protect air quality in Montana, and that the board cannot make required findings, based on record evidence and peer-reviewed studies, that the more restrictive requirements of the proposed rules are needed to protect public health and mitigate harm and are achievable with current technology. The restrictions that go beyond CAMR do not meet these requirements because those restrictions will not have any discernible impact on mercury levels in Montana. Mercury deposition in Montana is very low to begin with, and the proposed restrictions beyond CAMR will not produce meaningful further reductions in mercury deposition within the state. Especially under these circumstances, there is no justification for imposing more stringent emission limits that cannot be achieved with current technologies, as confirmed by recent testing at Colstrip, and without the flexibility afforded by the cap-and-trade provisions of CAMR.

RESPONSE TO COMMENTS IN "REASONABLE NECESSITY FOR RULES" CATEGORY: Section 2-4-305(6), MCA, of MAPA, states that an administrative rule is not valid or effective unless it is reasonably necessary to effectuate the purpose of the statute implemented by the rule. The statute further states that the agency adopting a rule must state the principal reasons and the rationale for its intended action and for the particular approach that it takes. In its Notice of Public Hearing on Proposed Amendment and Adoption for this rulemaking, the board included a statement of the reasonable necessity for adoption of rules regulating emissions of

mercury from EGUs. 2006 MAR 1112 (May 4, 2006). That statement explained the basis for the particular rule provisions proposed by the board but noted that the board also would consider comments on other approaches. For the reasons included in the statement of reasonable necessity, and the reasons discussed in these comments and responses to comments, the board believes that the rules being adopted by the board are reasonably necessary to protect air quality and protect public health and the environment. The other issues raised in the comments regarding reasonable necessity are discussed above in responses to other comments and in the written finding addressing House Bill 521 issues.

Rule Language Clarifications and Other Changes

COMMENTS: Several commentors suggested language changes in the rules.

RESPONSE TO COMMENTS: The board made several changes to the language of the final rules, as discussed in more detail below.

COMMENTS: Several commentors stated that the rules are not clear, are too complicated, leave too much room for interpretation, and/or leave too much room for department discretion.

RESPONSE TO COMMENTS: The board clarified the rules, to limit the need for interpretation and to give the regulated community, the department, and the public more certainty regarding the application process to obtain a permit for a mercury emissions limit and mercury control strategy, the application process for an alternative emission limit and the eligibility criteria for an AEL, and the application process for subsequent mercury BACT determinations.

COMMENTS: A commentor stated that there should be specific objective criteria for the department to determine whether to establish an AEL and that the department should be required to review the demonstration of the technology being used on the facility to control mercury emissions, including the results of sustained emissions testing while employing that technology, as well as its cost and feasibility. Because the phrase “constitutes a continual program of mercury control progression” is not defined and is not limited by considerations of cost effectiveness or feasibility, the term could be interpreted to allow the department open-ended discretion to impose untested mercury control technology as a condition of establishing an AEL. The propose rules should be expanded and clarified to explain the process the department will use for establishing an AEL. Using the principles from a BACT analysis, the rules should incorporate a review of technical feasibility of mercury controls, i.e., controls that are available and applicable, and a review of the cost-effectiveness of those available controls.

RESPONSE TO COMMENTS: The board has clarified the qualifications for obtaining an AEL. The board has placed more emphasis in the rules on determining the appropriate mercury control strategy prior to the initial compliance date, and

eligibility for obtaining an AEL will be dependent on how well the facility complied with the provisions in the air quality permit describing the mercury control strategy. New Rule I now lists the required contents of an application for a mercury control strategy as well as the specific data a facility must provide to apply for an AEL. If a facility has done all it is required under its permit to do to control mercury, obtaining an AEL based on the true capability of the approved mercury control strategy will not be complicated. Specific BACT requirements apply later in implementation of the new rules. An application for a BACT determination is due in 2014 for those facilities that have an AEL, and an application for a BACT determination will be due 10 years after issuance of the final permit for a mercury control strategy, for those facilities that achieve the original mercury limitation. An application for a new BACT determination will then be due for every facility every ten years.

COMMENTS: A commentor stated that the rules should clearly state that a facility in compliance with an AEL is not in violation of the Clean Air Act of Montana. Under New Rule I(7), while the department would be barred from initiating enforcement action, failure to attain the 0.9 lb/TBtu mercury emissions limit still would constitute a violation of the act and the SIP. A facility would be vulnerable to a citizen suit and/or EPA enforcement action if it was in compliance with an AEL but not the 0.9 lb/TBtu limit. Subsection (7) should be revised to add the phrase "exceedance of a limit established by (1)(a) shall not be a violation of the CAA of Montana, 75-2-101, MCA, nor the Montana state implementation plan under the federal CAA and," before the phrase "the department may not initiate".

RESPONSE TO COMMENTS: The rules currently state that: "If an application is submitted in accordance with [alternative emission limit application requirements], the failure of the owner or operator of the mercury-emitting generating unit to comply with the mercury emission limit in (1)(b) is not a violation of this rule or the permit until the department has issued its final decision on the application." These mercury control rules will be submitted to EPA as a control plan, as required by CAMR, and will not be submitted for inclusion in the Montana state implementation plan. The board does not believe any clarification of this language in the rules is necessary.

COMMENTS: A commentor stated that the department's proposed mercury limits for 2010 are vague, confusing, and infeasible. The proposal appears to allow for an AEL if the plant properly installs controls that the department determines are "projected to meet" this limit but they fail to do so. But, the rules contain no direction on how such determinations and projections would be made. The rules should clearly describe the process for approving control technologies designed to meet the limit.

RESPONSE TO COMMENTS: As discussed above, the board has clarified the criteria for obtaining an AEL.

COMMENTS: A commentor stated that the proposed rules do not provide a definition of "practices," within the meaning of the "mercury control practices" that the

owner or operator of an EGU may propose as a mercury control strategy. It is the commentor's understanding that a pre-combustion process such as K-Fuel™, would be a recognized "practice" as a compliance option for coal-fired power plants. If this understanding is not correct, the board should revise the language appropriately so that all mercury reduction techniques and processes, including pre-combustion, are treated as equal solutions to reducing mercury emissions and meeting required emission rates.

RESPONSE TO COMMENTS: It is the board's intent that pre-combustion processes such as K-Fuel™ would be considered recognized "practices" and compliance options for EGUs. The board has not revised this language in the rules because the board intends for the language to be broad and not limit the "practices" for reducing mercury emissions at EGUs that may be approved by the department.

COMMENTS: A commentor stated that, if the board adopts Rule II, the language should be clarified. "Allowance allocation value" should be defined as one allowance for each ounce of mercury emitted per year. The allocation also should be clarified. The formula in subsection (2) is pounds x MMBtu/hr x 8760 hours = "allocation allowance value." Subsection (5) states that the department shall allocate mercury allowances on a first come, first served basis, by date of commencement of commercial operation, and allocations may not exceed the Montana mercury budget. The board should clarify what occurs if the cap is exceeded. The board should clarify whether the most efficient plant has to cease operation, whether the department would start with the most recent commencement date and work back to the oldest plant, or whether some prorata formula would apply.

RESPONSE TO COMMENTS: The board has clarified the mercury emission allowance calculation language, and the board believes this language appropriately expresses the required methodology. The current allocation scheme, including all of the existing, currently permitted, and sources that are in the midst of the permitting process (specifically Southern Montana Electric), would allocate approximately half of Montana's budget from 2010-2017. Unallocated allowances would be available for new sources as they commenced commercial operation. Because the department is prohibited from allocating allowances in excess of the state budget, if the budget is reached, the owners or operators of any new EGUs requesting allowances beyond the budget amount would be refused through 2017. Starting in 2018, all facilities operating (or anticipated to be operating based on notification provided at commencement of construction) would be included in the allowance allocation equation. The department would base the allocations on the sum of the maximum design heat input for all existing EGUs in Montana as well as those that had commenced construction and notified the department of their intent to commence commercial operation for the control period year in question. The Montana allocation budget of 298 lbs would be divided up by that sum of the maximum design heat inputs.

COMMENTS: A couple of commentors stated that the rule requirements should take effect either immediately or as soon as possible.

RESPONSE TO COMMENTS: Requiring the mercury rule requirements to take effect immediately would result only in noncompliance, not environmental protection. Current rules, which are referenced in the mercury control rules, require that new or modified facilities install BACT for control of mercury emissions prior to startup. Requiring existing facilities to comply with a standard that they have had no time to prepare for or implement control for would be counterproductive. As discussed above, if EPA had promulgated a MACT standard to control mercury emissions from EGUs, instead of promulgating CAMR, the time from promulgation of the final rule to the compliance date probably would have been three years, based on previous MACT rules. Three years is a reasonable amount of time to allow facilities to make the necessary investments in control equipment, as well as to have that control equipment installed and operating. From the time of final action on these state rules in October of 2006, to the starting compliance date of January 1, 2010, is just over 3 years. In order to provide the maximum amount of mercury control on EGUs in Montana, the rules must allow enough flexibility and time for owners and operators to establish and implement the best mercury control strategy for each particular facility. Providing less than three years would force owners and operators to select the mercury control that is most available and easiest to install, instead of implementing a strategy that would be most appropriate for the facility and most protective of public health.

COMMENTS: A commentor stated that, under New Rule I(2)(a), the deadlines for notice of failure to meet the mercury standards are far too liberal. Notice should occur within six months, or by April 1, 2011, whichever is earlier. Under Rule 1(2)(b), the deadlines to apply for an AEL also are too liberal and should be within 18 months, or by July 1, 2011, whichever is earlier.

RESPONSE TO COMMENTS: The board has revised the deadlines for notice of failure to meet the mercury standards to “by March 1, 2011, or within 2 months of the failure, whichever is later.” The board has revised the deadline to file an application for an alternative emission limit to “by July 1, 2011, or within 6 months of the failure, whichever is later.” The “whichever is later” language applies to both new and existing facilities. A new facility starting up in 2012 automatically would be out of compliance based on the language suggested by the commentor. Owners and operators need a reasonable amount of time to review, and provide a quality assurance check on, any data submitted to the department, and 60 days is a standard amount of time to submit such data. Similarly, facilities need a reasonable amount of time to prepare a complete application for an alternative emission limit.

COMMENTS: A commentor stated that trading of surplus mercury emission credits should be reserved for use only by new or expanding mercury emitting units, rather than for ongoing units that fail to operate within their assigned limits. Credit buying and selling should not be used to perpetuate noncompliance. There should be stiff fines for units that are not in compliance, and the fine could be granted back

to the owner of the noncompliant unit upon the investment in adequate pollution reducing technology.

RESPONSE TO COMMENTS: Under the final rules, an owner or operator will not be able to "buy" into compliance with mercury allowances from the emission credit trading program. If a facility is out of compliance with a mercury emission limit or alternative emission limit, the compliance status cannot be changed by buying emission credits. That facility potentially would be subject to enforcement action. If a facility has an approved alternative emission limit, is in compliance with that limit, and needs to buy allowances between the allocation level and that limit, such purchases will be allowed and would be necessary to operate and maintain compliance with the EPA program that would require each EGU compliance account to have one allowance per ounce of mercury emitted for that control period year. Fines, among other enforcement tools, would be an available course of action for the department in the case of noncompliance with the mercury rules. Currently, there is no mechanism for granting enforcement fines back to noncompliant units upon investment in adequate pollution control equipment, and such a change would be outside the scope of this rulemaking.

COMMENTS: A commentor stated that the proposed rules do not provide definitions for the two categories of EGUs covered. The board should clarify what constitutes a unit that "combusts lignite," to ensure that utilities cannot make a windfall profit by receiving allowances based upon the lignite standard when the EGU is actually burning a significant amount of subbituminous coal. In ARM 17.8.740, "Definitions," the board should insert the following language:
(13) "a mercury emitting generating unit that does not combust lignite" means a mercury emitting generating unit that combusts lignite in an amount less than 10% of its total heat input, calculated for the prior calendar year on a calendar year basis.
(14) "a mercury emitting generating unit that combusts lignite" means a mercury emitting generating unit that combusts lignite in an amount equal to or greater than 90% of its total heat input, calculated for the prior calendar year on a calendar year basis.

RESPONSE TO COMMENTS: The board agrees that clarification is necessary and has added the following definition:
"(13) "Mercury-emitting generating unit that combusts lignite" means any mercury-emitting generating unit that combusts lignite in an amount equal to or greater than 75% of its total heat input, calculated for the prior calendar year on a calendar year basis."

Another commentor requested that the percentage of lignite should be set at exceeding 50%. After further discussions with the commentors on why particular percentages were requested, the board determined that 75% was most appropriate because other lignite facilities similar to the MDU facility have had to use up to 25% subbituminous coal to supplement the lignite in order to create a stable fuel mixture (due to the sometimes unpredictable properties of lignite). The board believes that

the definition of “mercury emitting generating unit that does not combust lignite” is implicit in this definition and that a separate definition of that phrase is unnecessary.

COMMENTS: A commentor stated that further definition of the AEL requirements is necessary. There are situations where there is no technology or practice that can achieve a standard from a technical perspective, be operative for the specific unit in question and/or be economically viable for the specific unit in question. Requiring installation of that equipment, solely for the purpose of having it fail in order to qualify for an AEL puts the company in the position of incurring not only stranded equipment, installation, and operating costs, but also lost revenues from outages and other reductions in efficiency in electrical generation. The board should borrow from existing Clean Air Act concepts and amend New Rule I(2) as follows:

If the owner or operator of a mercury-emitting generating unit properly installs and operates control technology, boiler technology, or follows practices projected to progress to achieve the mercury standard in (1)(a) (but only to the extent that such technology or practices are technologically feasible, commercially available, and economically viable for the specific mercury-emitting generating unit), and the control technology, boiler technology, or practices fail to achieve the emission rate required in (1)(a), the owner/operator . . . .

RESPONSE TO COMMENTS: As discussed above in response to other comments, the board has clarified the criteria for obtaining an AEL.

COMMENTS: A commentor stated that, if the board adopts cap-and-trade, the rules should include a provision prohibiting facilities from speculating in mercury allowances merely because they hold an air quality permit.

RESPONSE TO COMMENTS: As discussed above, owners and operators merely holding an air quality permit would not be allocated allowances, and, therefore, would not be able to speculate in mercury allowances. The owners and operators of facilities commencing commercial operation prior to 2018 would request allocations during the year in which they commence commercial operation. The owners and operators of EGUs that are anticipated to commence commercial operation in 2018 or later would be required to request allowances from the department for the time they anticipate commencing commercial operation when they provide notification of commencement of construction, pursuant to ARM 17.8.801. If they commence commercial operation later than that, they would have to surrender those unused allowances to the department.

COMMENTS: EPA commented that Montana’s approach of incorporating by reference most of the provisions of the EPA model rule not only facilitates EPA’s review but also will facilitate adoption by Montana of changes in the model rule.

RESPONSE TO COMMENTS: The board’s intent was to simplify the rules by incorporating by reference as much of the requirements from CAMR as was

possible, without sacrificing the flexibility allowed under the allowance allocation section, which the board customized to meet Montana's needs.

COMMENTS: EPA commented that, to be consistent with the change EPA made to the Montana EGU mercury budget in the May 31, 2006, final EPA rule on reconsideration, New Rule II should state Montana's EGU mercury budget in ounces of mercury, because each of the allowances that will be allocated will authorize one ounce of mercury emissions.

RESPONSE TO COMMENTS: The board has revised its final rules to express allowances in ounces, in response to this comment.

COMMENTS: EPA commented that New Rule II(1)(a) requires Montana to submit allocations to EPA in 2009, and later, for the control period four years after the year of the submission deadline. For example, in 2011, Montana would have to submit allocations for 2015. However, the proposed rules state that trading will not be allowed after 2014. Consistent with this intent, the draft rules should bar allocations for control periods after 2014.

RESPONSE TO COMMENTS: The board has not revised the timing of allocation submittals because the board has deleted the prohibition on trading of emission credits after 2014, and New Rule II now reflects unrestricted trading.

COMMENTS: EPA commented that, similar to EPA's model rule, New Rule II(1)(c) would provide for allocations in the absence of state submission of allocations to EPA. CAIR NO_X model trading rule initially included a provision similar to that in the mercury model rule. EPA subsequently removed that provision from CAIR and may propose to take the same action regarding the mercury model rule. Therefore, Montana should reconsider the need for New Rule II(1)(c).

RESPONSE TO COMMENTS: Based on EPA's comment, the board has deleted the section of the rules formerly included under New Rule II(1)(c).

COMMENTS: EPA commented that, under New Rule II(2), allowances would be determined by multiplying each unit's "maximum (nameplate) heat input value (in mmBtu/hr)" by 8,760 hours. The rule should describe what would happen if the calculation used in the allocation methodology resulted in total allowance allocations exceeding the state budget. The rule should provide a mechanism to reduce each unit's allocation, in that event, so that total allocations cannot exceed the state budget. New Rule II(1)(c) states that allocations will not exceed the budget, but the rule must explain how Montana will ensure this. Also, the rules should define the phrase "maximum (nameplate) heat input value," used in the rules. The rules should describe how the department will obtain this value or state that the department will use the best available data reported to it by the unit owner or operator.

RESPONSE TO COMMENTS: As discussed above, the allocation scheme adopted by the board would include all existing, currently permitted, and anticipated

to be permitted EGUs and would allocate approximately half of Montana's budget from 2010-2017. Because the department is prohibited from allocating allowances in excess of the state budget, if that budget is reached, the owners and operators of any new EGUs requesting allowances beyond the state budget would be refused through 2017. Starting in 2018, all EGUs operating, or anticipated to be operating, would be included in the allowance allocation equation. The board has defined the phrase "maximum design heat input" as having the meaning as defined in 40 CFR 60.4102. Also, the board has added language to New Rule II that states: "The department shall determine maximum design heat input for each mercury-emitting generating unit based on information reported to it by the owner or operator of the mercury-emitting generating unit."

COMMENTS: EPA commented that the rules should include language similar to CAMR Model Rule 60.4141(c)(2), describing how mercury allowances may be requested for a new unit.

RESPONSE TO COMMENTS: As EPA suggested, the board has included language in New Rule II similar to Model Rule 60.4141(c)(2), describing how mercury allowances may be requested for a new EGU. The language for EGUs commencing commercial operation in or after 2018 has been customized to reflect Montana's allocation scheme starting in 2018.

COMMENTS: EPA commented that the rules should state the criteria the department will use to determine whether a unit is to be treated as combusting lignite coal, e.g., by specifying that a minimum percentage of heat input during a specified period must be from lignite.

RESPONSE TO COMMENTS: As discussed above, the board added a definition of "mercury-emitting generating unit that combusts lignite."

COMMENTS: EPA commented that the proposed allocation methodology in New Rule II(2)(b), requiring surrender of "excess" allowances, assumes that each unit operates at maximum heat input value every hour of the year (8,760 hours), however, typically, units do not operate at this level. Therefore, every unit will be required to surrender allowances. The rules should describe how the "excess" allocation amount will be determined. Requiring surrender of "excess" allocations could create a disincentive to reduce emissions if the surrender is based on actual emissions. Also, the rules should specify procedures for implementing the requirement to surrender allowances, e.g., procedures requiring unit owners and operators to transfer allowances to a Montana general account. Surrender of allowances by the owner or operator is not part of the EPA end-of-year compliance process and would need to be compatible with the allowance transfer deadline in the model rule.

RESPONSE TO COMMENTS: The board has revised New Rule II to require surrender of excess emissions only for facilities that commence commercial operation during or after 2018 and that commence commercial operation later than

planned. The owners and operators of EGUs in this category would be required to request allocations based on their anticipated date of commencement of commercial operation, as defined in ARM 17.8.801. The board also added the following language to New Rule II(2): "(e) Any allowances left unallocated by the department or surrendered to the department shall be placed into a general account for the State of Montana as established under 40 CFR 60.4151." To be consistent with the allowance transfer deadline, the board also added language stating that any allowances surrendered must be surrendered prior to the end of the year.

COMMENTS: EPA commented that New Rule II should specify what happens to mercury allowances that are not allocated or to "excess" mercury allowances that are surrendered. Also, the rules should state what happens after 2014 to all unused mercury allowances issued by the department or held by Montana entities.

RESPONSE TO COMMENTS: As discussed above, the board revised New Rule II(2) to state: "(e) Any allowances left unallocated by the department or surrendered to the department shall be placed into a general account for the State of Montana as established under 40 CFR 60.4151." No revision is necessary to address allowances after 2014 because the final rules allow trading beyond that date.

COMMENTS: EPA commented that New Rule I includes mercury emission limits applicable in 2010 and thereafter for some, but not all, units subject to New Rule II, but the rules provide for an emissions allowance trading program only during 2010-2014. Montana needs to demonstrate that the state will not exceed its mercury budget for 2015 and beyond. For example, the state needs to show how its budget, which imposes a mass limit, will not be exceeded under rules that impose only emission rate limits and on some, but not all, EGUs.

RESPONSE TO COMMENTS: The final rules include mercury emission limits for all EGUs that are subject to New Rule II, as the definition of mercury-emitting generating unit references the definition of electrical generating unit under 40 CFR 60.24. The final rule is somewhat different than the original proposed New Rule II in that trading is now allowed on an unrestricted basis. The board's understanding is that, if unrestricted emission trading under EPA's trading program is allowed, it is not necessary for the state to demonstrate that its rules will meet the state mercury budget.

COMMENTS: EPA commented that, to participate in the EPA-administered mercury trading program, Montana must adopt EPA's model trading rule without substantive changes, except for the allowance allocation methodology. For example, substantive changes to the allowance transfer provisions of the model rule may not be made. The allowance transfer provisions allow facilities to buy and sell to any entity, without limitation, mercury allowances issued under the EPA mercury trading program. A state provision barring or limiting purchase of allowances from out-of-state entities would be inconsistent with the allowance transfer provisions and,

thus, constitute a substantive change that would prevent EPA approval of participation by the state's facilities, and use of the state's allowances, in the EPA-administered mercury trading program.

RESPONSE TO COMMENTS: The final rules contain no provisions limiting allowance transfer and adopt EPA's model trading rule, except for allowed changes to the allowance allocation methodology.

COMMENTS: A commentor stated that the definition of "commence commercial operation" should be revised so that the rules apply only to facilities selling electricity. The definition, as contained in 40 CFR 60.4102, could be interpreted so that an EGU would be subject to the rules, including the emission limits, from the date of first firing, before selling electricity under contract, because of the phrase "for sale or use, including test generation" included in the definition in 40 CFR 60.6102. The definition of "commence operation" should include the phrase "supplying electricity to meet contractual obligations." It is critical that facilities be allowed to conduct reasonable testing prior to commercial operation, without the threat of enforcement.

RESPONSE TO COMMENTS: Consistency with federal definitions is key to making the emission trading provisions work. Also, the suggested revision may not be approvable by EPA. The definition of "commence commercial operation" remains the same as the definition in 40 CFR 60.4102.

COMMENTS: A commentor stated that the board should not adopt the proposed AEL provisions but, if not eliminated from the rules, the AEL provisions should contain more certainty such that when a facility makes legitimate efforts to meet the final limits, the department must approve the AEL, and AELs must be available after 2018. Replacing the unworkable language of "projected, as determined by the department, to meet the standard in (1)(a)" with the following language might alleviate some concerns: "A source qualifies for an AEL if it demonstrates that it has made best efforts to achieve the 2.4 lb/TBtu for subbituminous and 5.7 lb/TBtu for lignite coal emission rate by 2010 and 0.9 lb/TBtu for subbituminous and 2.2 lb/TBtu for lignite by 2018. The AEL means that emission rate which results from the source having applied the best system of emission reduction that is available and has been adequately demonstrated in the market for the configuration and age of combustion system, rank of coal and emission control in operation at the unit(s) or the source demonstrates by which date it intends to apply the best system of emission reduction taking into account the cost of achieving such reduction and any non-air quality health and environmental impact and energy requirements." Another suggestion, which is not a preferred alternative, is to phase in emission limits to match the state budget.

RESPONSE TO COMMENTS: As discussed above, the board has clarified the criteria for obtaining an AEL.

Implementation of the Hardin Generating Station Settlement

COMMENTS: Centennial Power/Rocky Mountain Power commented that months before any party submitted proposed mercury rules to the board, Centennial Power/Rocky Mountain Power reached a settlement agreement with the department and the Montana Environmental Information Center (MEIC), which was approved by the board and under which: (1) the Hardin Generating Station would become a test facility for mercury control equipment for a 36-month demonstration period; (2) the company would install an ACI system or other suitable equipment at the end of the demonstration period; and (3) after an 18-month optimization period, the company would submit a permit application based on a factual analysis of the equipment. Settlements are worthless, however, if the department and the board can void those settlements through rulemaking procedures. If this is the case, parties in future disputes are less likely to consider settlement discussions and probably will proceed with full administrative/judicial litigation on disputed issues. The company is actively working toward quantifiable solutions to the mercury issue right now. In February of this year, the DOE awarded the Hardin Generating Station (HGS), in conjunction with ADA-ES, a $3.2 million grant to test mercury control equipment. The testing will be partially funded by the company. This shows the company's commitment to finding mercury emission solutions and to the Hardin settlement agreement. The company gave its word and intends to honor the Hardin settlement agreement, and MEIC has confirmed that it also intends to honor the agreement. The board and department should do the same. The board should incorporate a provision in any mercury rule it adopts that does not void the mercury control provisions of the Hardin Generating Station agreement.

RESPONSE TO COMMENTS – OPTION 1: While the board understands the concern expressed by the commentor, the settlement expressly states that the settlement agreement was not intended to ". . . limit any Party's participation in any . . . proceedings . . . with respect to any future decisions or permitting decisions; or to initiate or participate in any action to enforce any permit conditions or new law applicable to HGS." At the time the settlement agreement was signed, all parties knew that Montana would have to respond to the requirements under CAMR to develop a mercury control plan and that the HGS would be subject to it. The DOE grant awarded for the HGS targets 90% control of mercury. The "as-fired" mercury content in HGS coal as reported in air quality permit applications was estimated at 4.6 lb/TBtu. Under the final rules, if HGS needs to apply for an alternative emission limit, that alternative emission limit could not exceed 2.4 lb/TBtu, which would amount to less than 50% control. The board believes the rules provide enough flexibility to HGS while still encouraging the HGS to reduce mercury emissions as much as possible. For those reasons, the board has not included an exemption from the rules for the HGS, and the board does not believe that the final rules void any part of the settlement agreement.

RESPONSE TO COMMENTS – OPTION 2: The board understands the concern expressed by the commentor, and the board has included an initial exemption from the mercury limitations and control strategy submittal requirements.

However, as all other EGUs in Montana have to comply with the final mercury rules, it is necessary for the HGS to become subject to the rules starting in 2018. The 10-year mercury BACT review requirement will apply based on the date the air quality permit that incorporated the mercury limits for the HGS, pursuant to the settlement, went final. Emission allocations will remain the same for the HGS.

Miscellaneous

COMMENTS: A commentor stated that mercury rules are necessary to avoid a situation like the contamination at the Zortman-Landusky mine.

RESPONSE TO COMMENTS: The board agrees that mercury is a hazardous air pollutant that needs to be regulated.

COMMENTS: A commentor stated that there should be tax credits to give the coal/power companies incentive to clean up mercury emissions.

RESPONSE TO COMMENTS: Tax credits for coal/power companies to clean up mercury emissions are outside of the scope of this rulemaking.

COMMENTS: A commentor stated that, at this time, coal is the most affordable form of creating electricity and that it does not make sense to restrict coal processing and then purchase electricity from others and take their pollution.

RESPONSE TO COMMENTS: The board believes that coal can be developed responsibly and in balance with environmental concerns, as demonstrated in this rulemaking process.

Reviewed by: BOARD OF ENVIRONMENTAL REVIEW

/s/ */s/*

DAVID RUSOFF
Rule Reviewer

JOSEPH W. RUSSELL, M.P.H.
Chairman

Certified to the Secretary of State, _____, 2006.